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SEMIANNUAL MONITORING REPORT

**CIBA-GEIGY FACILITY
AT
180 MILL STREET
CRANSTON, RHODE ISLAND**

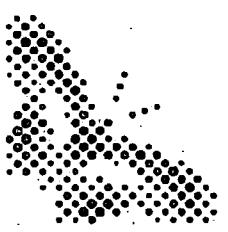
MONITORING RESULTS

FOR

JULY - DECEMBER 1999

**CIBA SPECIALTY CHEMICALS CORPORATION
TOMS RIVER, NEW JERSEY 08754**





Ciba

SEMIANNUAL MONITORING REPORT

**CIBA-GEIGY FACILITY
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180 MILL STREET
CRANSTON, RHODE ISLAND**

MONITORING RESULTS

FOR

JULY - DECEMBER 1999

**CIBA SPECIALTY CHEMICALS CORPORATION
TOMS RIVER, NEW JERSEY 08754**

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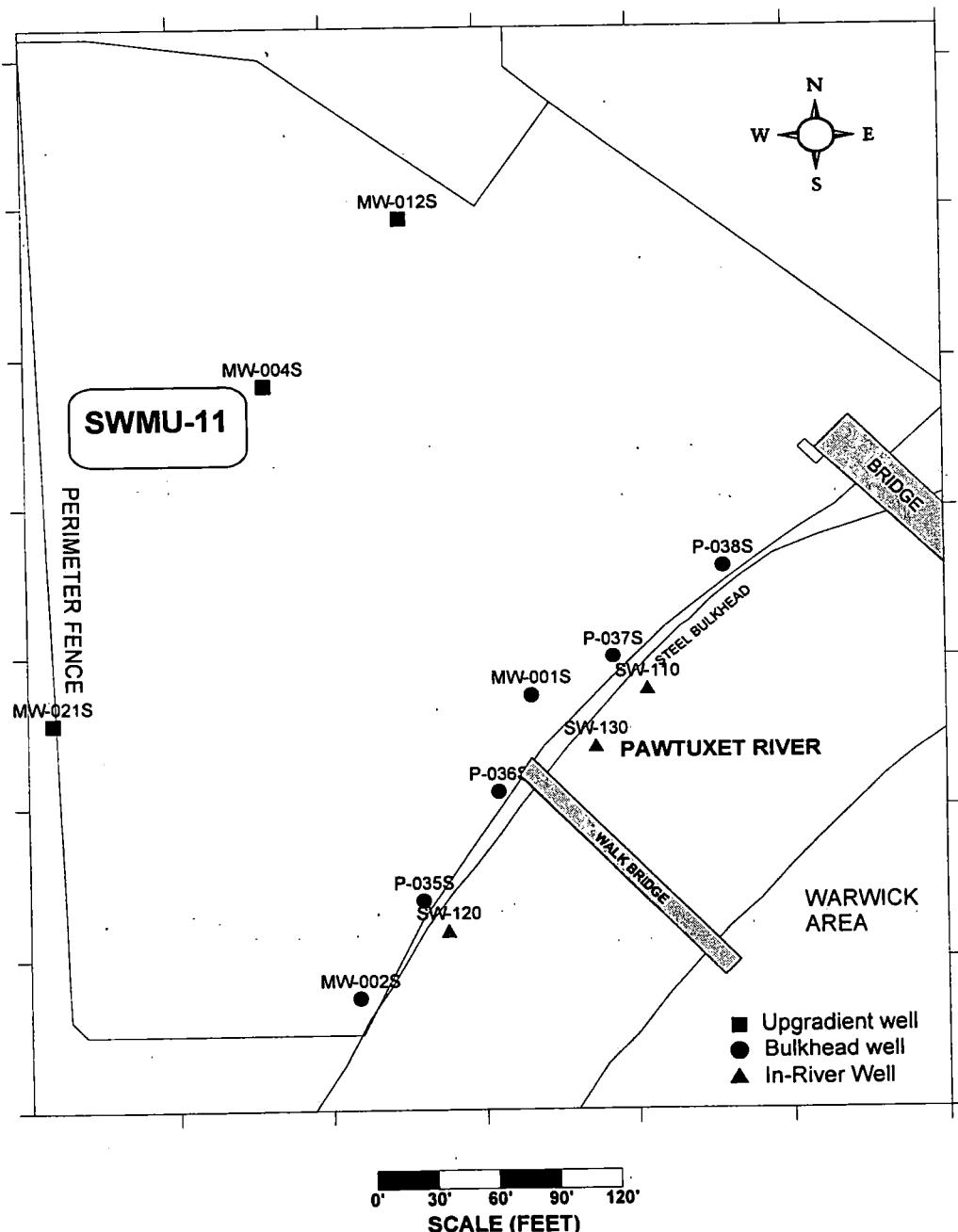
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- Appendix A Tabulated Groundwater Elevation Data and Potentiometric contours
- Appendix B Certificate Of Analysis - R. I. Analytical
- Appendix C Time-Series Graphs and Data for Upgradient Wells
- Appendix D Time-Series Graphs and Data for Bulkhead Wells
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WELL LOCATION MAP

CIBA SPECIALTY CHEMICALS CORPORATION (FORMERLY CIBA-GEIGY CORPORATION) CRANSTON, RI FACILITY FORMER PRODUCTION AREA

Chemical Well Monitoring Network



1.0 SUMMARY

On June 16, 1989, the USEPA and Ciba-Geigy Corporation (now Ciba Specialty Chemicals Corporation (Ciba)) entered into an Administrative Order on Consent (AOC) that required, in part, Ciba to conduct a Corrective Measures Study (CMS) and propose Media Protection Standards (MPSs) for the former manufacturing facility at Cranston, RI (the Facility). MPSs for five chemicals of concern (COC) were developed, see Table 1, and are the focus of the semiannual monitoring at the Facility.

The semiannual monitoring episode for the second half of 1999 was performed on September 27, 1999, at which time 12 wells were sampled and analyzed by Rhode Island Analytical for a suite of chemicals including the COC.

The results of the sampling show no significant change in chemical concentrations for COC at the 12 wells over the 3 years since Ciba has operated the Groundwater Extraction and Treatment System (GETS) at the Facility. However, since the previous monitoring episode performed in April 1999, the number of exceedance for the MPSs for the 12 wells has decreased from 5 exceedances in 3 wells to 3 exceedances in 3 wells.

The next groundwater monitoring episode will be in April 2000.

2.0 OBJECTIVE

The objective of the monitoring program is to evaluate the GETS on controlling releases to the Pawtuxet River while long-term corrective measures to areas of concern are being evaluated, specifically SWMU-11.

3.0 INTRODUCTION

In August 1996, Ciba submitted to the USEPA a Pawtuxet River Corrective Measures Study (PRCMS) Report. In the PRCMS report (Section 3.5.1, page 3-12) Ciba proposed to measure groundwater elevations in the former Production Area quarterly during the first two years following startup of the groundwater capture system and then semiannually until the groundwater capture and pretreatment system were shutdown. Data collected during hydraulic monitoring from 23 wells are evaluated periodically to verify that the shallow contaminated groundwater in the former Production Area is hydraulically controlled from discharging into the Pawtuxet River.

Inclusive of the PRCMS Ciba also proposed to monitor groundwater quality at the Facility. Groundwater is sampled semiannually from 12 selected overburden monitoring wells to evaluate changes in groundwater quality, specifically in COC.

4.0 MEDIA PROTECTION STANDARDS

During the RCRA Facility investigation an MPS¹ was developed for each of five chemical contaminants detected in the Production Area groundwater. These contaminants and their respective MPSs are summarized below and discussed in detail in the PRCMS Report, Section 2.4.1.

Table 1

**Media Protection Standards
for
CIBA-GEIGY, Cranston R.I. Facility
Former Production Area**

Compound	MPSs Concentration (ppb)
1,2-dichlorobenzene	94
chlorobenzene	1700
ortho-chlorotoluene	1500
toluene	1700*
xlenes	76

* Rhode Island Groundwater Objective GB - Groundwater classified as GB has been designated by the Rhode Island Department of Environmental Management (RIDEM) as not suitable for public or private drinking water use.

5.0 SEMIANNUAL MONITORING RESULTS

This report summarizes the groundwater results for the COC sampling that was performed on September 27, 1999. The COC data are compared to previous compliance sampling rounds

¹ From the Public Health and Environmental Risk Evaluation (PHERE) that concluded the sole receptor impacted by contaminated groundwater were benthic invertebrates in the shallow sediments of the Pawtuxet River.

dating back to March 1996, when the semiannual monitoring program was initiated. The report also presents the results of the hydraulic monitoring that was performed on October 13, 1999. The hydraulic results are compared to pre-pumping baseline conditions dated September 30, 1993.

5.1 Hydraulic Monitoring

Piezometric contours for the overburden aquifer were created from data collected on October 13, 1999, from 23 groundwater monitoring wells using Golden Software, Inc., SURFER FOR WINDOWS, Version 5.01 software.

The tabulated groundwater elevation data and the associated potentiometric contours, Figures 1 and 2, are included in Appendix A.

The kriging contour algorithm was used as a best fit method of approximating the directional groundwater flow pattern. The baseline results in Figure 1 show groundwater flow from northwest to southeast to the Pawtuxet River. Figure 2 shows the effect of the 2 extraction wells on the groundwater flow. While extraction well PW-110 north of the walk bridge shows groundwater capture (nominal capacity 53 GPM), the second extraction well PW-120 south of the walk bridge, has a moderate effect at best (nominal capacity 3-5 GPM) on groundwater capture.

The above results are borne out by groundwater modeling (not included in this report) and the capture falls somewhat short along the bulkhead in the south. Ciba has installed a third extraction well (PW-130), south of the walk bridge, to improve the groundwater capture in this area. PW-130 is expected to be on-line and pumping about 20 GPM before the end of December 1999.

5.2 Chemicals Of Concern Monitoring

Twelve wells were sampled as part of the semiannual sampling episode. The wells are divided into three main groups; shown in the Location Map of introductory Section iii of this report. The COC analytical results are tabulated and included in Table 2 at the end of this section.

Discussion of the COC results:

The Bulkhead wells are six in number and 5 of the 6 wells are meeting the MPS numbers. The exception is well MW-001S located at the mid way along the bulkhead in the former Production Area. Well MW-001S has an exceedances in chlorobenzene (2300 ppb vs 1700 MPS). The

history of this well shows chlorobenzene exceedances in 5 of the 8 sampling events inclusive of the last 2 events, therefore no improvement for chlorobenzene is observed.

Three wells are designated upgradient to the Bulkhead wells and 2 of the 3 wells show exceedances in the MPSs for o-chlorotoluene or xylenes. Well MW-021S is located adjacent to the east perimeter fence and directly south of the SWMU-11 source area. This well is high in o-chlorotoluene (8100 vs 1500 MPS) and has exceeded the o-chlorotoluene MPS value in the last three consecutive sampling episodes. Well MW-004S is downgradient to the SWMU-11 source area and is high for xylenes (79 ppb vs 76 MPS). This well (004S) has consistency exceeded the MPS for xylenes, however, the 79 ppb is the lowest observed result of the 8 sampling episodes since semiannual monitoring was initiated.

The three In-River wells did not have exceedances in any of the MPSs. In fact, since semiannual monitoring was initiated in March 1996, the 3 In-River wells have not exceeded any MPS for any of the COC.

Table 2

Monitoring Results for September 27, 1999
Chemicals Of Concern
(as ppb)

Well Location	Well Number	MPS	94 1,2-dichloro- benzene	1700 chloro- benzene	1500 o-chloro- toluene	1700 toluene	76 xylenes
Upgradient	MW-004S		31	93	400	20 U	79
	MW-012S		58	1 U	1	1 U	6
	MW-021S		40 U	40 U	8100	40 U	40 U
Bulkhead	MW-001S		40 U	2300	40	40 U	40 U
	MW-002S		43	40 U	40	40 U	40 U
	P-035S		40 U	40 U	40	40 U	40 U
	P-036S		10 U	450	10	10 U	10 U
	P-037S		10 U	660	10	10 U	10 U
	P-038S		1 U	1	1	1 U	1 U
In-River	SW-110		40 U	40 U	40	40 U	10 U
	SW-120		10 U	68	10	10 U	10 U
	SW-130		1 U	1	2	1 U	1 U

U = Nondetect with detection limit given

J = Estimated value

6.0 DISCUSSION OF RESULTS

The September 1999, Certificate Of Analysis by R.I. Analytical is included in Appendix B. The cumulative results from 1996 to the present for 12 wells and 5 COC are included as Tables 3, 4, and 5 in Appendices C, D, and E respectively. The cumulative results of each COC are plotted as Time-Series graphs for a better perception of trends, if any, over the sampling history since the inception of the groundwater extraction system in September 1995. These plots are also found in the respective Appendices C, D, and E.

A review of upgradient well MW-004S (Table 3, Appendix C) demonstrates some improvement for o-chlorotoluene, 1,2-dichlorobenzene, and toluene and contamination. Well MW-004S is downgradient to SWMU-11 and these reductions could be attributed to some of the natural reductions that occur over time.

Trends in concentration are not apparent at the 6 Bulkhead wells (Table 4, Appendix D). The MPSs are being met in all but well MW-001S where concentrations of chlorobenzene generally remained above 2000 ppb. This situation should improve when extraction well PW-130 is placed into production.

The good news remains in the 3 In-River wells (Table 5, Appendix E) where most of the analytical is nondetect in COC. The contaminant with the most noticeable presence is chlorobenzene, but the concentrations are decreasing in these wells. Well SW-110, where chlorobenzene values are near the MPS (1600 ppb vs 1700 MPS) and first observed in March 1996, are now at non-detect.

7.0 CONCLUSION

Groundwater quality as measured by the exceedance in MPSs for groundwater monitoring in the former Production Area has improved over time. Hydraulic capture falls short at the bulkhead where groundwater enter the Pawtuxet River. However, the introduction of new extraction well PW-130, expected to be on-line before the end of December 1999, should correct this shortfall.

The next surface water sampling of the river is scheduled for April 2000.

APPENDIX A

TABULATED

GROUNDWATER ELEVATION DATA

AND

POTENIOMETRIC CONTOURS

**CIBA SPECIALTY CHEMICALS CORPORATION
(FORMERLY CIBA-GEIGY CORPORATION)**
180 MILL STREET
CRANSTON, RI

GROUNDWATER MONITORING

October 13, 1999 September 30, 1993

MONITORING WELL	TOC MSL FEET	TOC TO WATER FEET	GW ELEVATION MSL FEET	GW ELEVATION MSL FEET
MW-001S	15.04	7.68	7.27	9.39
MW-002S	14.46	6.84	7.58	9.21
MW-003S	16.61	8.15	8.37	7.96
MW-004S	21.29	10.49	10.13	10.72
MW-010S	22.62	11.29	10.97	11.34
MW-012S	22.54	11.65	10.60	10.54
MW-013S	18.44	9.71	8.60	9.83
MW-020S	21.94	10.40	11.13	11.53
MW-022S	16.87	7.15	9.43	9.63
MW-023S	20.71	11.50	dry	9.41
MW-024S	21.04	10.00	10.56	10.89
MW-034S	18.85	8.38	10.39	10.4
P-001S	16.41	8.58	6.96	9.17
P-002S	13.85	6.55	7.15	8.38
P-003S	15.45	8.10	7.17	7.09
P-004S	19.92	8.66	10.62	11.07
P-005S	21.18	11.18	9.80	10.68
P-006S	23.62	12.90	10.37	10.39
P-034S	17.15	7.35	9.87	10.12
P-035S	15.32	7.92	7.42	8.51
P-036S	15.91	8.46	6.40	8.62
P-037S	15.69	11.20	4.91	8.96
P-038S	16.19	8.60	8.29	8.74

Figure 1

CIBA SPECIALTY CHEMICALS CORPORATION
CRANSTON, RI FACILITY
FORMER PRODUCTION AREA

Pre-Pump & Treat Potentiometric Surface Map
September 30, 1993

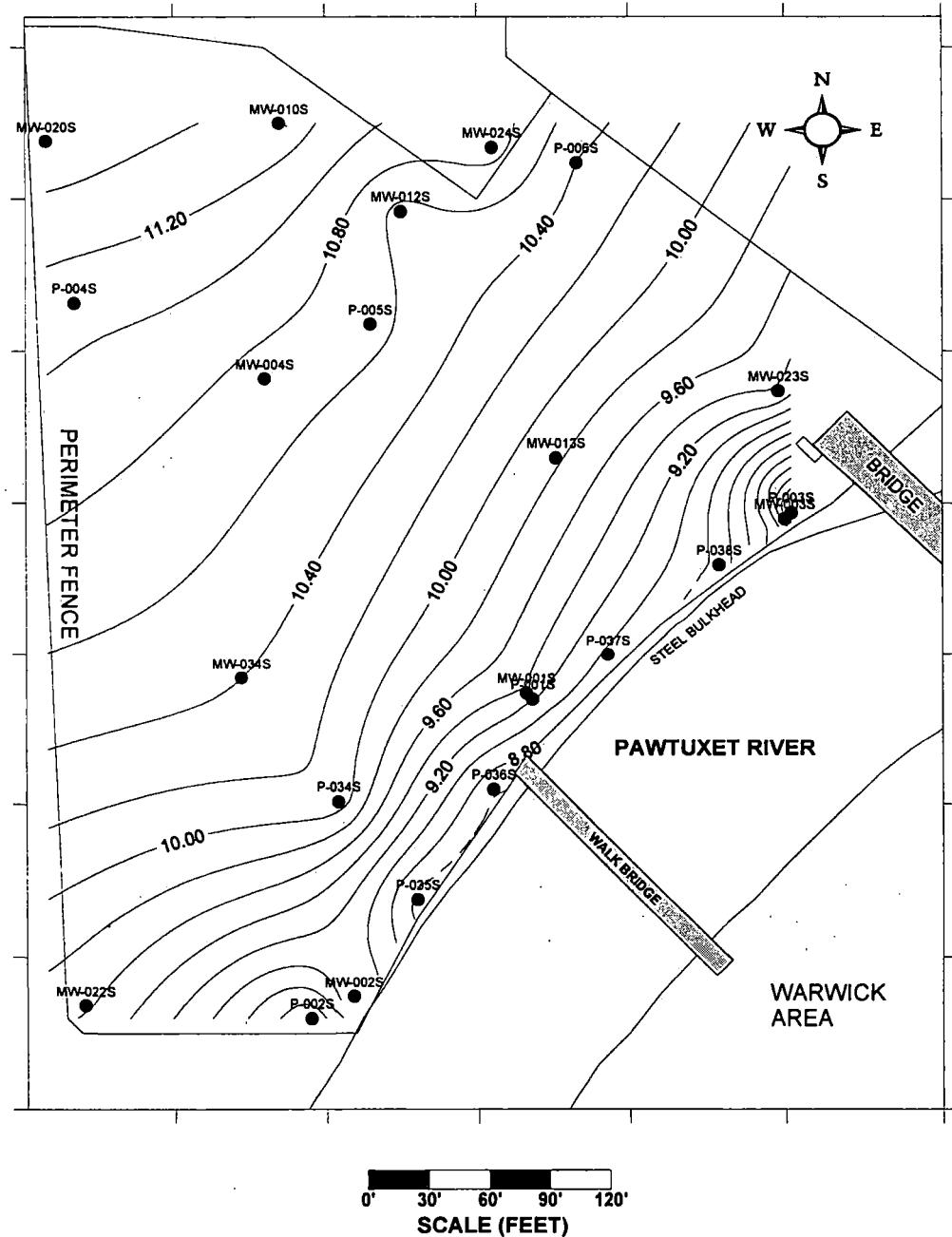
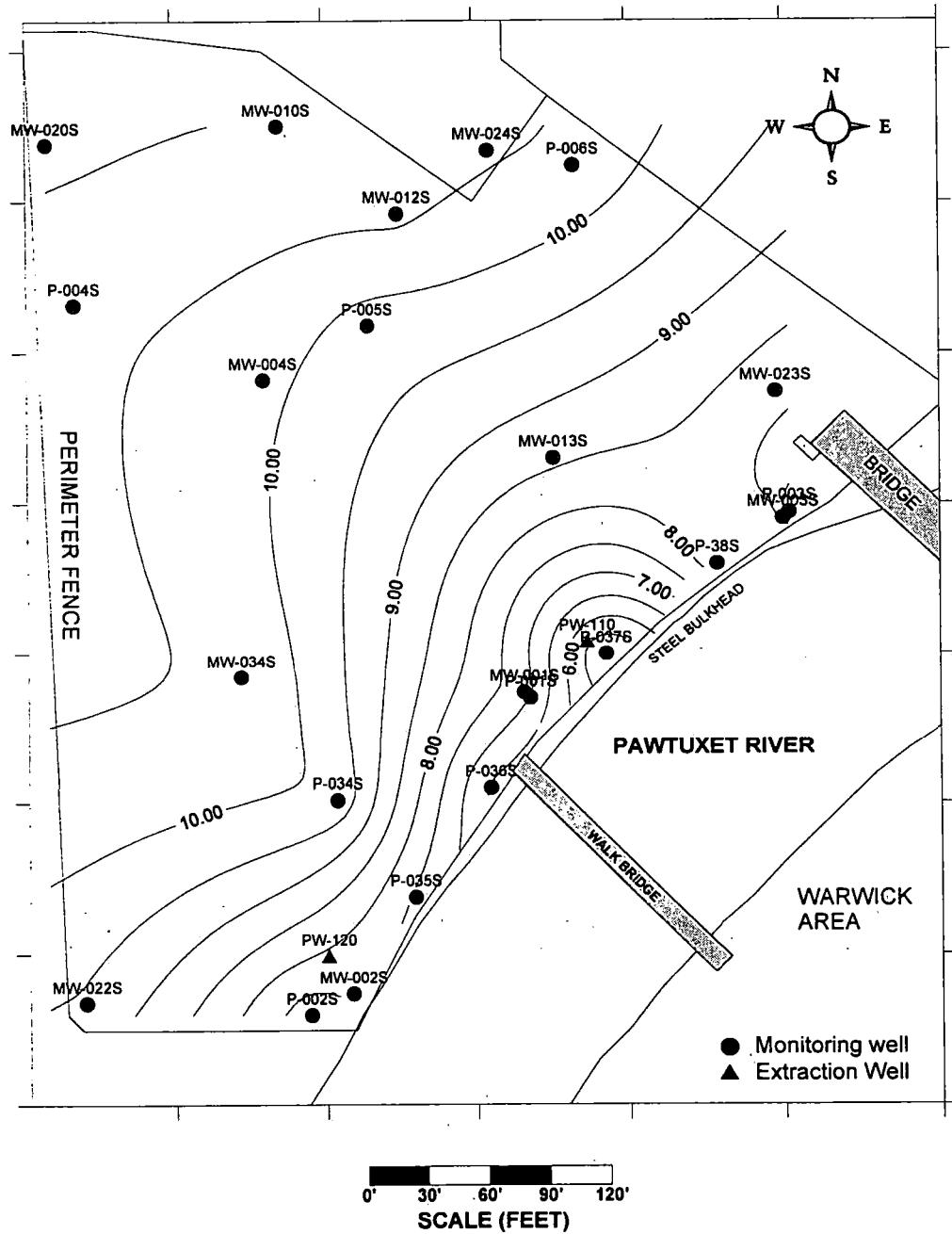


Figure 2

**CIBA SPECIALTY CHEMICALS CORPORATION
CRANSTON, RI FACILITY
FORMER PRODUCTION AREA**

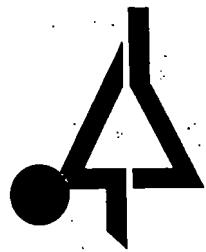
**Potentiometric Surface Map
October 13, 1999**



APPENDIX B

CERTIFICATE OF ANALYSIS

R. I. ANALYTICAL



R.I. Analytical

Specialists in Environmental Services

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Attn: Mr. Barry Cohen
Environmental Building #743
Route 37 West
Toms River, NJ 08754

Date Received: 9/27/99
Date Reported: 10/05/99
P.O. #: T18-27T1124
Work Order #: 9909-09206

DESCRIPTION: CRANSTON SITE (SEVENTEEN GROUNDWATER SAMPLES)

Subject sample(s) has/have been analyzed by our laboratory with the attached results.

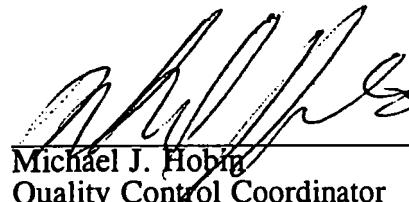
Reference: All parameters were analyzed by U.S. EPA approved methodologies. The specific methodologies are listed in the methods column of the Certificate Of Analysis.

If you have any questions regarding this work, or if we may be of further assistance, please contact us.

Approved by:

James E. Mich
Vice President

enc: Chain of Custody



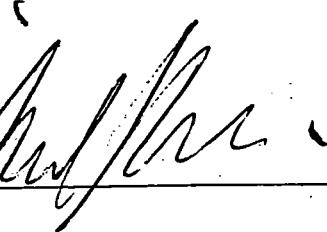
Michael J. Hobin
Quality Control Coordinator

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
 Date Received: 9/27/99
 Work Order # 9909-09206

Approved by:


R.I. Analytical

Sample #: 001

SAMPLE DESCRIPTION: MW-02S GRAB 09/27/99 @0815

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.7		SU	EPA 150.1	9/27/99 8:15	PAP
TEMPERATURE (field)	64		F	EPA 170.1	9/27/99 8:15	PAP
SPECIFIC CONDUCTANCE	501	1	uMHOS/CM	EPA 120.1	9/27/99 8:15	PAP
Dissolved Oxygen	<1.0	1.0	mg/l	EPA 360.1	9/27/99 8:15	PAP
Volatile Organic Compounds						
chloromethane	<400	400	ug/l	8240	9/29/99 14:03	JAH
bromomethane	<400	400	ug/l	8240	9/29/99 14:03	JAH
vinyl chloride	270	40	ug/l	8240	9/29/99 14:03	JAH
dichlorodifluoromethane	<400	400	ug/l	8240	9/29/99 14:03	JAH
chloroethane	<400	400	ug/l	8240	9/29/99 14:03	JAH
methylene chloride	<200	200	ug/l	8240	9/29/99 14:03	JAH
trichlorofluoromethane	<40	40	ug/l	8240	9/29/99 14:03	JAH
1,1-dichloroethylene	<40	40	ug/l	8240	9/29/99 14:03	JAH
1,1-dichloroethane	<40	40	ug/l	8240	9/29/99 14:03	JAH
trans-1,2-dichloroethylene	<40	40	ug/l	8240	9/29/99 14:03	JAH
chloroform	<40	40	ug/l	8240	9/29/99 14:03	JAH
1,2-dichloroethane	<40	40	ug/l	8240	9/29/99 14:03	JAH
1,1,1-Trichloroethane	<40	40	ug/l	8240	9/29/99 14:03	JAH
carbon tetrachloride	<40	40	ug/l	8240	9/29/99 14:03	JAH
bromodichloromethane	<40	40	ug/l	8240	9/29/99 14:03	JAH
1,2-dichloropropane	<40	40	ug/l	8240	9/29/99 14:03	JAH
cis-1,3-dichloropropylene	<40	40	ug/l	8240	9/29/99 14:03	JAH
trichloroethylene	<40	40	ug/l	8240	9/29/99 14:03	JAH
trans-1,3-dichloropropylene	<40	40	ug/l	8240	9/29/99 14:03	JAH
1,1,2-Trichloroethane	<40	40	ug/l	8240	9/29/99 14:03	JAH
Dibromochloromethane	<40	40	ug/l	8240	9/29/99 14:03	JAH
Bromoform	<40	40	ug/l	8240	9/29/99 14:03	JAH
Tetrachloroethylene	<40	40	ug/l	8240	9/29/99 14:03	JAH
1,1,2,2-Tetrachloroethane	<40	40	ug/l	8240	9/29/99 14:03	JAH
Chlorobenzene	2800	40	ug/l	8240	9/29/99 14:03	JAH
2-chloroethyl vinyl ether	<80	80	ug/l	8240	9/29/99 14:03	JAH
benzene	<40	40	ug/l	8240	9/29/99 14:03	JAH
toluene	110	40	ug/l	8240	9/29/99 14:03	JAH
ethylbenzene	<40	40	ug/l	8240	9/29/99 14:03	JAH
xylenes	<40	40	ug/l	8240	9/29/99 14:03	JAH
acetone	<400	400	ug/l	8240	9/29/99 14:03	JAH
carbon disulfide	<200	200	ug/l	8240	9/29/99 14:03	JAH
2-butanone	<400	400	ug/l	8240	9/29/99 14:03	JAH
vinyl acetate	<2000	2000	ug/l	8240	9/29/99 14:03	JAH

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:

R.I. Analytical

Sample #: 001

MW-02S GRAB 09/27/99 @0815

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone	<2000	2000	ug/l	8240	9/29/99 14:03	JAH
2-hexanone	<2000	2000	ug/l	8240	9/29/99 14:03	JAH
Styrene	<40	40	ug/l	8240	9/29/99 14:03	JAH
O-chlorotoluene	<40	40	ug/l	8240	9/29/99 14:03	JAH
1,2-Dichlorobenzene	43	40	ug/l	8240	9/29/99 14:03	JAH
1,3-Dichlorobenzene	<40	40	ug/l	8240	9/29/99 14:03	JAH
1,4-Dichlorobenzene	<40	40	ug/l	8240	9/29/99 14:03	JAH
Surrogates		RANGE		8240	9/29/99 14:03	JAH
Dibromofluoromethane	96		86-118%	8240	9/29/99 14:03	JAH
4-Bromofluorobenzene	106		86-115%	8240	9/29/99 14:03	JAH
Toluene-D8	99		88-110%	8240	9/29/99 14:03	JAH

Volatile organic analyses performed under the operating guidelines
method 8260.

METHOD 8240: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:

R.I. Analytical

Sample #: 002

SAMPLE DESCRIPTION: SW120 GRAB 09/27/99 @0900

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.7		SU	EPA 150.1	9/27/99 9:00	PAP
TEMPERATURE (field)	60		F	EPA 170.1	9/27/99 9:00	PAP
SPECIFIC CONDUCTANCE	310	1	uMHOS/CM	EPA 120.1	9/27/99 9:00	PAP
Dissolved Oxygen	<1.0	1.0	mg/l	EPA 360.1	9/27/99 9:00	PAP
Volatile Organic Compounds						
chloromethane	<100	100	ug/l	8240	9/29/99 17:21	JAH
bromomethane	<100	100	ug/l	8240	9/29/99 17:21	JAH
vinyl chloride	<10	10	ug/l	8240	9/29/99 17:21	JAH
dichlorodifluoromethane	<100	100	ug/l	8240	9/29/99 17:21	JAH
chloroethane	<100	100	ug/l	8240	9/29/99 17:21	JAH
methylene chloride	<50	50	ug/l	8240	9/29/99 17:21	JAH
trichlorofluoromethane	<10	10	ug/l	8240	9/29/99 17:21	JAH
1,1-dichloroethylene	<10	10	ug/l	8240	9/29/99 17:21	JAH
1,1-dichloroethane	<10	10	ug/l	8240	9/29/99 17:21	JAH
trans-1,2-dichloroethylene	<10	10	ug/l	8240	9/29/99 17:21	JAH
chloroform	<10	10	ug/l	8240	9/29/99 17:21	JAH
1,2-dichloroethane	<10	10	ug/l	8240	9/29/99 17:21	JAH
1,1,1-Trichloroethane	<10	10	ug/l	8240	9/29/99 17:21	JAH
carbon tetrachloride	<10	10	ug/l	8240	9/29/99 17:21	JAH
bromodichloromethane	<10	10	ug/l	8240	9/29/99 17:21	JAH
1,2-dichloropropane	<10	10	ug/l	8240	9/29/99 17:21	JAH
cis-1,3-dichloropropylene	<10	10	ug/l	8240	9/29/99 17:21	JAH
trichloroethylene	<10	10	ug/l	8240	9/29/99 17:21	JAH
trans-1,3-dichloropropylene	<10	10	ug/l	8240	9/29/99 17:21	JAH
1,1,2-Trichloroethane	<10	10	ug/l	8240	9/29/99 17:21	JAH
Dibromochloromethane	<10	10	ug/l	8240	9/29/99 17:21	JAH
Bromoform	<10	10	ug/l	8240	9/29/99 17:21	JAH
Tetrachloroethylene	<10	10	ug/l	8240	9/29/99 17:21	JAH
1,1,2,2-Tetrachloroethane	<10	10	ug/l	8240	9/29/99 17:21	JAH
Chlorobenzene	68	10	ug/l	8240	9/29/99 17:21	JAH
2-chloroethyl vinyl ether	<20	20	ug/l	8240	9/29/99 17:21	JAH
benzene	<10	10	ug/l	8240	9/29/99 17:21	JAH
toluene	<10	10	ug/l	8240	9/29/99 17:21	JAH
ethylbenzene	<10	10	ug/l	8240	9/29/99 17:21	JAH
xylenes	<10	10	ug/l	8240	9/29/99 17:21	JAH
acetone	<100	100	ug/l	8240	9/29/99 17:21	JAH
carbon disulfide	<50	50	ug/l	8240	9/29/99 17:21	JAH
2-butanone	<100	100	ug/l	8240	9/29/99 17:21	JAH
vinyl acetate	<500	500	ug/l	8240	9/29/99 17:21	JAH

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
 Date Received: 9/27/99
 Work Order # 9909-09206

Approved by: 
 R.I. Analytical

Sample #: 002

SW120 GRAB 09/27/99 @0900

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone	<500	500	ug/l	8240	9/29/99 17:21	JAH
2-hexanone	<500	500	ug/l	8240	9/29/99 17:21	JAH
Styrene	<10	10	ug/l	8240	9/29/99 17:21	JAH
O-chlorotoluene	<10	10	ug/l	8240	9/29/99 17:21	JAH
1,2-Dichlorobenzene	<10	10	ug/l	8240	9/29/99 17:21	JAH
1,3-Dichlorobenzene	<10	10	ug/l	8240	9/29/99 17:21	JAH
1,4-Dichlorobenzene	<10	10	ug/l	8240	9/29/99 17:21	JAH
Surrogates			RANGE	8240	9/29/99 17:21	JAH
Dibromofluoromethane	98		86-118%	8240	9/29/99 17:21	JAH
4-Bromofluorobenzene	100		86-115%	8240	9/29/99 17:21	JAH
Toluene-D8	107		88-110%	8240	9/29/99 17:21	JAH

Volatile organic analyses performed under the operating guidelines
 method 8260.

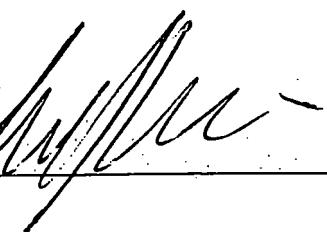
METHOD 8240: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
 Date Received: 9/27/99
 Work Order # 9909-09206

Approved by:


R.I. Analytical

Sample #: 003

SAMPLE DESCRIPTION: P-35S GRAB 09/27/99 @0925

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	7.4		SU	EPA 150.1	9/27/99 9:25	PAP
TEMPERATURE (field)	66		F	EPA 170.1	9/27/99 9:25	PAP
SPECIFIC CONDUCTANCE	767	1	uMHOS/CM	EPA 120.1	9/27/99 9:25	PAP
Dissolved Oxygen	<1.0	1.0	mg/l	EPA 360.1	9/27/99 9:25	PAP
Volatile Organic Compounds						
chloromethane	<400	400	ug/l	8240	9/28/99 17:51	JAH
bromomethane	<400	400	ug/l	8240	9/28/99 17:51	JAH
vinyl chloride	<40	40	ug/l	8240	9/28/99 17:51	JAH
dichlorodifluoromethane	<400	400	ug/l	8240	9/28/99 17:51	JAH
chloroethane	<400	400	ug/l	8240	9/28/99 17:51	JAH
methylene chloride	<200	200	ug/l	8240	9/28/99 17:51	JAH
trichlorofluoromethane	<40	40	ug/l	8240	9/28/99 17:51	JAH
1,1-dichloroethylene	<40	40	ug/l	8240	9/28/99 17:51	JAH
1,1-dichloroethane	<40	40	ug/l	8240	9/28/99 17:51	JAH
trans-1,2-dichloroethylene	<40	40	ug/l	8240	9/28/99 17:51	JAH
chloroform	<40	40	ug/l	8240	9/28/99 17:51	JAH
1,2-dichloroethane	<40	40	ug/l	8240	9/28/99 17:51	JAH
1,1,1-Trichloroethane	<40	40	ug/l	8240	9/28/99 17:51	JAH
carbon tetrachloride	<40	40	ug/l	8240	9/28/99 17:51	JAH
bromodichloromethane	<40	40	ug/l	8240	9/28/99 17:51	JAH
1,2-dichloropropane	<40	40	ug/l	8240	9/28/99 17:51	JAH
cis-1,3-dichloropropylene	<40	40	ug/l	8240	9/28/99 17:51	JAH
trichloroethylene	<40	40	ug/l	8240	9/28/99 17:51	JAH
trans-1,3-dichloropropylene	<40	40	ug/l	8240	9/28/99 17:51	JAH
1,1,2-Trichloroethane	<40	40	ug/l	8240	9/28/99 17:51	JAH
Dibromochloromethane	<40	40	ug/l	8240	9/28/99 17:51	JAH
Bromoform	<40	40	ug/l	8240	9/28/99 17:51	JAH
Tetrachloroethylene	<40	40	ug/l	8240	9/28/99 17:51	JAH
1,1,2,2-Tetrachloroethane	<40	40	ug/l	8240	9/28/99 17:51	JAH
Chlorobenzene	370	40	ug/l	8240	9/28/99 17:51	JAH
2-chloroethyl vinyl ether	<80	80	ug/l	8240	9/28/99 17:51	JAH
benzene	<40	40	ug/l	8240	9/28/99 17:51	JAH
toluene	<40	40	ug/l	8240	9/28/99 17:51	JAH
ethylbenzene	<40	40	ug/l	8240	9/28/99 17:51	JAH
xylanes	<40	40	ug/l	8240	9/28/99 17:51	JAH
acetone	<400	400	ug/l	8240	9/28/99 17:51	JAH
carbon disulfide	<200	200	ug/l	8240	9/28/99 17:51	JAH
2-butanone	<400	400	ug/l	8240	9/28/99 17:51	JAH
vinyl acetate	<2000	2000	ug/l	8240	9/28/99 17:51	JAH

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:

R.I. Analytical

Sample #: 003

P-35S GRAB 09/27/99 @0925

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone	<2000	2000	ug/l	8240	9/28/99 17:51	JAH
2-hexanone	<2000	2000	ug/l	8240	9/28/99 17:51	JAH
Styrene	<40	40	ug/l	8240	9/28/99 17:51	JAH
O-chlorotoluene	<40	40	ug/l	8240	9/28/99 17:51	JAH
1,2-Dichlorobenzene	<40	40	ug/l	8240	9/28/99 17:51	JAH
1,3-Dichlorobenzene	<40	40	ug/l	8240	9/28/99 17:51	JAH
1,4-Dichlorobenzene	<40	40	ug/l	8240	9/28/99 17:51	JAH
Surrogates		RANGE		8240	9/28/99 17:51	JAH
Dibromofluoromethane	97		86-118%	8240	9/28/99 17:51	JAH
4-Bromofluorobenzene	99		86-115%	8240	9/28/99 17:51	JAH
Toluene-D8	106		88-110%	8240	9/28/99 17:51	JAH

Volatile organic analyses performed under the operating guidelines
method 8260.

METHOD 8240: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
 Date Received: 9/27/99
 Work Order # 9909-09206

Approved by:

R.I. Analytical

Sample #: 004

SAMPLE DESCRIPTION: PW120 GRAB 09/27/99 @0940

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.8		SU	EPA 150.1	9/27/99 9:40	PAP
TEMPERATURE (field)	59		F	EPA 170.1	9/27/99 9:40	PAP
SPECIFIC CONDUCTANCE	360	1	µMHOS/CM	EPA 120.1	9/27/99 9:40	PAP
Dissolved Oxygen	<1.0	1.0	mg/l	EPA 360.1	9/27/99 9:40	PAP
Volatile Organic Compounds						
chloromethane	<400	400	ug/l	8240	9/29/99 11:40	JAH
bromomethane	<400	400	ug/l	8240	9/29/99 11:40	JAH
vinyl chloride	170	40	ug/l	8240	9/29/99 11:40	JAH
dichlorodifluoromethane	<400	400	ug/l	8240	9/29/99 11:40	JAH
chloroethane	<400	400	ug/l	8240	9/29/99 11:40	JAH
methylene chloride	<200	200	ug/l	8240	9/29/99 11:40	JAH
trichlorofluoromethane	<40	40	ug/l	8240	9/29/99 11:40	JAH
1,1-dichloroethylene	<40	40	ug/l	8240	9/29/99 11:40	JAH
1,1-dichloroethane	<40	40	ug/l	8240	9/29/99 11:40	JAH
trans-1,2-dichloroethylene	<40	40	ug/l	8240	9/29/99 11:40	JAH
chloroform	<40	40	ug/l	8240	9/29/99 11:40	JAH
1,2-dichloroethane	<40	40	ug/l	8240	9/29/99 11:40	JAH
1,1,1-Trichloroethane	<40	40	ug/l	8240	9/29/99 11:40	JAH
carbon tetrachloride	<40	40	ug/l	8240	9/29/99 11:40	JAH
bromodichloromethane	<40	40	ug/l	8240	9/29/99 11:40	JAH
1,2-dichloropropane	<40	40	ug/l	8240	9/29/99 11:40	JAH
cis-1,3-dichloropropylene	<40	40	ug/l	8240	9/29/99 11:40	JAH
trichloroethylene	140	40	ug/l	8240	9/29/99 11:40	JAH
trans-1,3-dichloropropylene	<40	40	ug/l	8240	9/29/99 11:40	JAH
1,1,2-Trichloroethane	<40	40	ug/l	8240	9/29/99 11:40	JAH
Dibromochloromethane	<40	40	ug/l	8240	9/29/99 11:40	JAH
Bromoform	<40	40	ug/l	8240	9/29/99 11:40	JAH
Tetrachloroethylene	140	40	ug/l	8240	9/29/99 11:40	JAH
1,1,2,2-Tetrachloroethane	<40	40	ug/l	8240	9/29/99 11:40	JAH
Chlorobenzene	4000	40	ug/l	8240	9/29/99 11:40	JAH
2-chloroethyl vinyl ether	<80	80	ug/l	8240	9/29/99 11:40	JAH
benzene	<40	40	ug/l	8240	9/29/99 11:40	JAH
toluene	150	40	ug/l	8240	9/29/99 11:40	JAH
ethylbenzene	<40	40	ug/l	8240	9/29/99 11:40	JAH
styrenes(Total)	<40	40	ug/l	8240	9/29/99 11:40	JAH
acetone	<400	400	ug/l	8240	9/29/99 11:40	JAH
carbon disulfide	<200	200	ug/l	8240	9/29/99 11:40	JAH
2-butanone(MEK)	<400	400	ug/l	8240	9/29/99 11:40	JAH
vinyl acetate	<2000	2000	ug/l	8240	9/29/99 11:40	JAH

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:

R.I. Analytical

Sample #: 004

PW120 GRAB 09/27/99 @0940

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	<2000	2000	ug/l	8240	9/29/99 11:40	JAH
2-hexanone	<2000	2000	ug/l	8240	9/29/99 11:40	JAH
Styrene	<40	40	ug/l	8240	9/29/99 11:40	JAH
o-chlorotoluene	140	40	ug/l	8240	9/29/99 11:40	JAH
1,2-Dichlorobenzene	4100	40	ug/l	8240	9/29/99 11:40	JAH
1,3-Dichlorobenzene	<40	40	ug/l	8240	9/29/99 11:40	JAH
1,4-Dichlorobenzene	<40	40	ug/l	8240	9/29/99 11:40	JAH
Surrogates		RANGE		8240	9/29/99 11:40	JAH
Dibromofluoromethane	99		86-118%	8240	9/29/99 11:40	JAH
4-Bromofluorobenzene	107		86-115%	8240	9/29/99 11:40	JAH
Toluene-D8	102		88-110%	8240	9/29/99 11:40	JAH

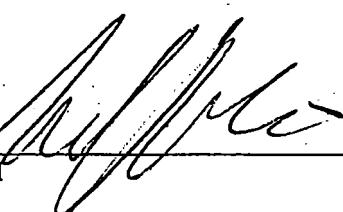
Volatile organic analyses performed under the operating guidelines
method 8260.

METHOD 8240: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
 Date Received: 9/27/99
 Work Order # 9909-09206

Approved by: 
 R.I. Analytical

Sample #: 005

SAMPLE DESCRIPTION: P36S GRAB 09/27/99 @1010

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	7.5		SU	EPA 150.1	9/27/99 10:10	PAP
TEMPERATURE (field)	65		F	EPA 170.1	9/27/99 10:10	PAP
SPECIFIC CONDUCTANCE	767	1	µMHOS/CM	EPA 120.1	9/27/99 10:10	PAP
Dissolved Oxygen	<1.0	1.0	mg/l	EPA 360.1	9/27/99 10:10	PAP
Volatile Organic Compounds						
chloromethane	<100	100	ug/l	8240	9/29/99 12:37	JAH
bromomethane	<100	100	ug/l	8240	9/29/99 12:37	JAH
vinyl chloride	<10	10	ug/l	8240	9/29/99 12:37	JAH
dichlorodifluoromethane	<100	100	ug/l	8240	9/29/99 12:37	JAH
chloroethane	<100	100	ug/l	8240	9/29/99 12:37	JAH
methylene chloride	<50	50	ug/l	8240	9/29/99 12:37	JAH
trichlorofluoromethane	<10	10	ug/l	8240	9/29/99 12:37	JAH
1,1-dichloroethylene	<10	10	ug/l	8240	9/29/99 12:37	JAH
1,1-dichloroethane	<10	10	ug/l	8240	9/29/99 12:37	JAH
trans-1,2-dichloroethylene	<10	10	ug/l	8240	9/29/99 12:37	JAH
chloroform	<10	10	ug/l	8240	9/29/99 12:37	JAH
1,2-dichloroethane	<10	10	ug/l	8240	9/29/99 12:37	JAH
1,1,1-Trichloroethane	<10	10	ug/l	8240	9/29/99 12:37	JAH
carbon tetrachloride	<10	10	ug/l	8240	9/29/99 12:37	JAH
bromodichloromethane	<10	10	ug/l	8240	9/29/99 12:37	JAH
1,2-dichloropropane	<10	10	ug/l	8240	9/29/99 12:37	JAH
cis-1,3-dichloropropylene	<10	10	ug/l	8240	9/29/99 12:37	JAH
trichloroethylene	<10	10	ug/l	8240	9/29/99 12:37	JAH
trans-1,3-dichloropropylene	<10	10	ug/l	8240	9/29/99 12:37	JAH
1,1,2-Trichloroethane	<10	10	ug/l	8240	9/29/99 12:37	JAH
Dibromochloromethane	<10	10	ug/l	8240	9/29/99 12:37	JAH
Bromoform	<10	10	ug/l	8240	9/29/99 12:37	JAH
Tetrachloroethylene	<10	10	ug/l	8240	9/29/99 12:37	JAH
1,1,2,2-Tetrachloroethane	<10	10	ug/l	8240	9/29/99 12:37	JAH
Chlorobenzene	450	10	ug/l	8240	9/29/99 12:37	JAH
2-chloroethyl vinyl ether	<20	20	ug/l	8240	9/29/99 12:37	JAH
benzene	<10	10	ug/l	8240	9/29/99 12:37	JAH
toluene	<10	10	ug/l	8240	9/29/99 12:37	JAH
ethylbenzene	<10	10	ug/l	8240	9/29/99 12:37	JAH
styrenes	<10	10	ug/l	8240	9/29/99 12:37	JAH
acetone	<100	100	ug/l	8240	9/29/99 12:37	JAH
carbon disulfide	<50	50	ug/l	8240	9/29/99 12:37	JAH
2-butanone	<100	100	ug/l	8240	9/29/99 12:37	JAH
vinyl acetate	<500	500	ug/l	8240	9/29/99 12:37	JAH

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
 Date Received: 9/27/99
 Work Order # 9909-09206

Approved by:

R.I. Analytical

Sample #: 005

P36S GRAB 09/27/99 @1010

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone	<500	500	ug/l	8240	9/29/99 12:37	JAH
2-hexanone	<500	500	ug/l	8240	9/29/99 12:37	JAH
Styrene	<10	10	ug/l	8240	9/29/99 12:37	JAH
O-chlorotoluene	<10	10	ug/l	8240	9/29/99 12:37	JAH
1,2-Dichlorobenzene	<10	10	ug/l	8240	9/29/99 12:37	JAH
1,3-Dichlorobenzene	<10	10	ug/l	8240	9/29/99 12:37	JAH
1,4-Dichlorobenzene	<10	10	ug/l	8240	9/29/99 12:37	JAH
Surrogates			RANGE	8240	9/29/99 12:37	JAH
Dibromofluoromethane	98		86-118%	8240	9/29/99 12:37	JAH
4-Bromo fluorobenzene	108		86-115%	8240	9/29/99 12:37	JAH
Toluene-D8	102		88-110%	8240	9/29/99 12:37	JAH

Volatile organic analyses performed under the operating guidelines
 method 8260.

METHOD 8240: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:

R.I. Analytical

Sample #: 006

SAMPLE DESCRIPTION: MW01S GRAB 09/27/99 @1135

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.9		SU	EPA 150.1	9/27/99 11:35	PAP
TEMPERATURE (field)	68		F	EPA 170.1	9/27/99 11:35	PAP
SPECIFIC CONDUCTANCE	742	1	µMHOS/CM	EPA 120.1	9/27/99 11:35	PAP
Dissolved Oxygen	<1.0	1.0	mg/l	EPA 360.1	9/27/99 11:35	PAP
Volatile Organic Compounds						
chloromethane	<400	400	ug/l	8240	9/29/99 13:20	JAH
bromomethane	<400	400	ug/l	8240	9/29/99 13:20	JAH
vinyl chloride	<40	40	ug/l	8240	9/29/99 13:20	JAH
dichlorodifluoromethane	<400	400	ug/l	8240	9/29/99 13:20	JAH
chloroethane	<400	400	ug/l	8240	9/29/99 13:20	JAH
methylene chloride	<200	200	ug/l	8240	9/29/99 13:20	JAH
trichlorofluoromethane	<40	40	ug/l	8240	9/29/99 13:20	JAH
1,1-dichloroethylene	<40	40	ug/l	8240	9/29/99 13:20	JAH
1,1-dichloroethane	<40	40	ug/l	8240	9/29/99 13:20	JAH
trans-1,2-dichloroethylene	<40	40	ug/l	8240	9/29/99 13:20	JAH
chloroform	<40	40	ug/l	8240	9/29/99 13:20	JAH
1,2-dichloroethane	<40	40	ug/l	8240	9/29/99 13:20	JAH
1,1,1-Trichloroethane	<40	40	ug/l	8240	9/29/99 13:20	JAH
carbon tetrachloride	<40	40	ug/l	8240	9/29/99 13:20	JAH
bromodichloromethane	<40	40	ug/l	8240	9/29/99 13:20	JAH
1,2-dichloropropane	<40	40	ug/l	8240	9/29/99 13:20	JAH
cis-1,3-dichloropropylene	<40	40	ug/l	8240	9/29/99 13:20	JAH
trichloroethylene	<40	40	ug/l	8240	9/29/99 13:20	JAH
trans-1,3-dichloropropylene	<40	40	ug/l	8240	9/29/99 13:20	JAH
1,1,2-Trichloroethane	<40	40	ug/l	8240	9/29/99 13:20	JAH
Dibromochloromethane	<40	40	ug/l	8240	9/29/99 13:20	JAH
Bromoform	<40	40	ug/l	8240	9/29/99 13:20	JAH
Tetrachloroethylene	<40	40	ug/l	8240	9/29/99 13:20	JAH
1,1,2,2-Tetrachloroethane	<40	40	ug/l	8240	9/29/99 13:20	JAH
Chlorobenzene	2300	40	ug/l	8240	9/29/99 13:20	JAH
2-chloroethyl vinyl ether	<80	80	ug/l	8240	9/29/99 13:20	JAH
benzene	<40	40	ug/l	8240	9/29/99 13:20	JAH
toluene	<40	40	ug/l	8240	9/29/99 13:20	JAH
ethylbenzene	<40	40	ug/l	8240	9/29/99 13:20	JAH
styrene	<40	40	ug/l	8240	9/29/99 13:20	JAH
cetone	<400	400	ug/l	8240	9/29/99 13:20	JAH
carbon disulfide	<200	200	ug/l	8240	9/29/99 13:20	JAH
2-butanone	<400	400	ug/l	8240	9/29/99 13:20	JAH
vinyl acetate	<2000	2000	ug/l	8240	9/29/99 13:20	JAH

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:

R.I. Analytical

Sample #: 006

MW01S GRAB 09/27/99 @1135

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone	<2000	2000	ug/l	8240	9/29/99 13:20	JAH
2-hexanone	<2000	2000	ug/l	8240	9/29/99 13:20	JAH
Styrene	<40	40	ug/l	8240	9/29/99 13:20	JAH
O-chlorotoluene	<40	40	ug/l	8240	9/29/99 13:20	JAH
1,2-Dichlorobenzene	<40	40	ug/l	8240	9/29/99 13:20	JAH
1,3-Dichlorobenzene	<40	40	ug/l	8240	9/29/99 13:20	JAH
1,4-Dichlorobenzene	<40	40	ug/l	8240	9/29/99 13:20	JAH
Surrogates			RANGE	8240	9/29/99 13:20	JAH
Dibromofluoromethane	98		86-118%	8240	9/29/99 13:20	JAH
4-Bromofluorobenzene	108		86-115%	8240	9/29/99 13:20	JAH
luene-D8	100		88-110%	8240	9/29/99 13:20	JAH

Volatile organic analyses performed under the operating guidelines
method 8260.

METHOD 8240: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:

R.I. Analytical

Sample #: 007

SAMPLE DESCRIPTION: SW130 GRAB 09/27/99 @1100

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.9		SU	EPA 150.1	9/27/99 11:00	PAP
TEMPERATURE (field)	64		F	EPA 170.1	9/27/99 11:00	PAP
SPECIFIC CONDUCTANCE	319	1	µMHOS/CM	EPA 120.1	9/27/99 11:00	PAP
Dissolved Oxygen	1.5	1.0	mg/l	EPA 360.1	9/27/99 11:00	PAP
Volatile Organic Compounds						
chloromethane	<10	10	ug/l	8240	9/28/99 19:17	JAH
bromomethane	<10	10	ug/l	8240	9/28/99 19:17	JAH
vinyl chloride	4	1	ug/l	8240	9/28/99 19:17	JAH
dichlorodifluoromethane	<10	10	ug/l	8240	9/28/99 19:17	JAH
chloroethane	<10	10	ug/l	8240	9/28/99 19:17	JAH
methylene chloride	<5	5	ug/l	8240	9/28/99 19:17	JAH
trichlorofluoromethane	<1	1	ug/l	8240	9/28/99 19:17	JAH
1,1-dichloroethylene	<1	1	ug/l	8240	9/28/99 19:17	JAH
1,1-dichloroethane	<1	1	ug/l	8240	9/28/99 19:17	JAH
trans-1,2-dichloroethylene	<1	1	ug/l	8240	9/28/99 19:17	JAH
chloroform	<1	1	ug/l	8240	9/28/99 19:17	JAH
1,2-dichloroethane	<1	1	ug/l	8240	9/28/99 19:17	JAH
1,1,1-Trichloroethane	<1	1	ug/l	8240	9/28/99 19:17	JAH
carbon tetrachloride	<1	1	ug/l	8240	9/28/99 19:17	JAH
bromodichloromethane	<1	1	ug/l	8240	9/28/99 19:17	JAH
1,2-dichloropropane	<1	1	ug/l	8240	9/28/99 19:17	JAH
cis-1,3-dichloropropylene	<1	1	ug/l	8240	9/28/99 19:17	JAH
trichloroethylene	<1	1	ug/l	8240	9/28/99 19:17	JAH
trans-1,3-dichloropropylene	<1	1	ug/l	8240	9/28/99 19:17	JAH
1,1,2-Trichloroethane	<1	1	ug/l	8240	9/28/99 19:17	JAH
Dibromochloromethane	<1	1	ug/l	8240	9/28/99 19:17	JAH
Bromoform	<1	1	ug/l	8240	9/28/99 19:17	JAH
Tetrachloroethylene	<1	1	ug/l	8240	9/28/99 19:17	JAH
1,1,2,2-Tetrachloroethane	<1	1	ug/l	8240	9/28/99 19:17	JAH
Chlorobenzene	1	1	ug/l	8240	9/28/99 19:17	JAH
2-chloroethyl vinyl ether	<2	2	ug/l	8240	9/28/99 19:17	JAH
benzene	<1	1	ug/l	8240	9/28/99 19:17	JAH
toluene	<1	1	ug/l	8240	9/28/99 19:17	JAH
ethylbenzene	<1	1	ug/l	8240	9/28/99 19:17	JAH
ethenes	<1	1	ug/l	8240	9/28/99 19:17	JAH
acetone	<10	10	ug/l	8240	9/28/99 19:17	JAH
carbon disulfide	<5	5	ug/l	8240	9/28/99 19:17	JAH
2-butanone	<10	10	ug/l	8240	9/28/99 19:17	JAH
vinyl acetate	<50	50	ug/l	8240	9/28/99 19:17	JAH

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:

R.I. Analytical

Sample #: 007

SW130 GRAB 09/27/99 @1100

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone	<50	50	ug/l	8240	9/28/99 19:17	JAH
2-hexanone	<50	50	ug/l	8240	9/28/99 19:17	JAH
Styrene	<1	1	ug/l	8240	9/28/99 19:17	JAH
O-chlorotoluene	2	1	ug/l	8240	9/28/99 19:17	JAH
1,2-Dichlorobenzene	<1	1	ug/l	8240	9/28/99 19:17	JAH
1,3-Dichlorobenzene	<1	1	ug/l	8240	9/28/99 19:17	JAH
1,4-Dichlorobenzene	<1	1	ug/l	8240	9/28/99 19:17	JAH
Surrogates			RANGE	8240	9/28/99 19:17	JAH
Dibromofluoromethane	98		86-118%	8240	9/28/99 19:17	JAH
4-Bromofluorobenzene	100		86-115%	8240	9/28/99 19:17	JAH
Toluene-D8	106		88-110%	8240	9/28/99 19:17	JAH

Volatile organic analyses performed under the operating guidelines
method 8260.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:

R.I. Analytical

Sample #: 008

SAMPLE DESCRIPTION: PW110 GRAB 09/27/99 @1120

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.6		SU	EPA 150.1	9/27/99 11:20	PAP
TEMPERATURE (field)	64		F	EPA 170.1	9/27/99 11:20	PAP
SPECIFIC CONDUCTANCE	347	1	µMHOS/CM	EPA 120.1	9/27/99 11:20	PAP
Dissolved Oxygen	< 1.0	1.0	mg/l	EPA 360.1	9/27/99 11:20	PAP
Volatile Organic Compounds						
chloromethane	< 400	400	ug/l	8240	9/29/99 18:05	JAH
bromomethane	< 400	400	ug/l	8240	9/29/99 18:05	JAH
vinyl chloride	< 40	40	ug/l	8240	9/29/99 18:05	JAH
dichlorodifluoromethane	< 400	400	ug/l	8240	9/29/99 18:05	JAH
chloroethane	< 400	400	ug/l	8240	9/29/99 18:05	JAH
methylene chloride	< 200	200	ug/l	8240	9/29/99 18:05	JAH
trichlorofluoromethane	< 40	40	ug/l	8240	9/29/99 18:05	JAH
1,1-dichloroethylene	< 40	40	ug/l	8240	9/29/99 18:05	JAH
1,1-dichloroethane	< 40	40	ug/l	8240	9/29/99 18:05	JAH
trans-1,2-dichloroethylene	< 40	40	ug/l	8240	9/29/99 18:05	JAH
chloroform	< 40	40	ug/l	8240	9/29/99 18:05	JAH
1,2-dichloroethane	< 40	40	ug/l	8240	9/29/99 18:05	JAH
1,1,1-Trichloroethane	< 40	40	ug/l	8240	9/29/99 18:05	JAH
carbon tetrachloride	< 40	40	ug/l	8240	9/29/99 18:05	JAH
bromodichloromethane	< 40	40	ug/l	8240	9/29/99 18:05	JAH
1,2-dichloropropene	< 40	40	ug/l	8240	9/29/99 18:05	JAH
cis-1,3-dichloropropylene	< 40	40	ug/l	8240	9/29/99 18:05	JAH
trichloroethylene	< 40	40	ug/l	8240	9/29/99 18:05	JAH
trans-1,3-dichloropropylene	< 40	40	ug/l	8240	9/29/99 18:05	JAH
1,1,2-Trichloroethane	< 40	40	ug/l	8240	9/29/99 18:05	JAH
Dibromochloromethane	< 40	40	ug/l	8240	9/29/99 18:05	JAH
Bromoform	< 40	40	ug/l	8240	9/29/99 18:05	JAH
Tetrachloroethylene	< 40	40	ug/l	8240	9/29/99 18:05	JAH
1,1,2,2-Tetrachloroethane	< 40	40	ug/l	8240	9/29/99 18:05	JAH
Chlorobenzene	320	40	ug/l	8240	9/29/99 18:05	JAH
2-chloroethyl vinyl ether	< 80	80	ug/l	8240	9/29/99 18:05	JAH
benzene	< 40	40	ug/l	8240	9/29/99 18:05	JAH
toluene	< 40	40	ug/l	8240	9/29/99 18:05	JAH
ethylbenzene	< 40	40	ug/l	8240	9/29/99 18:05	JAH
oluenes	< 40	40	ug/l	8240	9/29/99 18:05	JAH
acetone	< 400	400	ug/l	8240	9/29/99 18:05	JAH
carbon disulfide	< 200	200	ug/l	8240	9/29/99 18:05	JAH
2-butanone	< 400	400	ug/l	8240	9/29/99 18:05	JAH
vinyl acetate	< 2000	2000	ug/l	8240	9/29/99 18:05	JAH

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:

R.I. Analytical

Sample #: 008

PW110 GRAB 09/27/99 @1120

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone	<2000	2000	ug/l	8240	9/29/99 18:05	JAH
2-hexanone	<2000	2000	ug/l	8240	9/29/99 18:05	JAH
Styrene	<40	40	ug/l	8240	9/29/99 18:05	JAH
O-chlorotoluene	76	40	ug/l	8240	9/29/99 18:05	JAH
1,2-Dichlorobenzene	270	40	ug/l	8240	9/29/99 18:05	JAH
1,3-Dichlorobenzene	<40	40	ug/l	8240	9/29/99 18:05	JAH
1,4-Dichlorobenzene	<40	40	ug/l	8240	9/29/99 18:05	JAH
Surrogates		RANGE		8240	9/29/99 18:05	JAH
Dibromofluoromethane	100		86-118%	8240	9/29/99 18:05	JAH
4-Bromofluorobenzene	106		86-115%	8240	9/29/99 18:05	JAH
Toluene-D8	98		88-110%	8240	9/29/99 18:05	JAH

Volatile organic analyses performed under the operating guidelines
method 8260.

METHOD 8240: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:

R.I. Analytical

Sample #: 009

SAMPLE DESCRIPTION: P-37-S GRAB 09/27/99 @1205

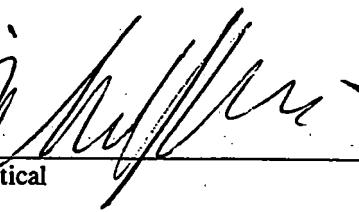
PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	7.0		SU	EPA 150.1	9/27/99 12:05	PAP
TEMPERATURE (field)	67		F	EPA 170.1	9/27/99 12:05	PAP
SPECIFIC CONDUCTANCE	632	1	uMHOS/CM	EPA 120.1	9/27/99 12:05	PAP
Dissolved Oxygen	1.4	1.0	mg/l	EPA 360.1	9/27/99 12:05	PAP
Volatile Organic Compounds						
chloromethane	<100	100	ug/l	8240	9/29/99 18:48	JAH
bromomethane	<100	100	ug/l	8240	9/29/99 18:48	JAH
vinyl chloride	<10	10	ug/l	8240	9/29/99 18:48	JAH
dichlorodifluoromethane	<100	100	ug/l	8240	9/29/99 18:48	JAH
chloroethane	<100	100	ug/l	8240	9/29/99 18:48	JAH
methylene chloride	<50	50	ug/l	8240	9/29/99 18:48	JAH
trichlorofluoromethane	<10	10	ug/l	8240	9/29/99 18:48	JAH
1,1-dichloroethylene	<10	10	ug/l	8240	9/29/99 18:48	JAH
1,1-dichloroethane	<10	10	ug/l	8240	9/29/99 18:48	JAH
trans-1,2-dichloroethylene	<10	10	ug/l	8240	9/29/99 18:48	JAH
chloroform	<10	10	ug/l	8240	9/29/99 18:48	JAH
1,2-dichloroethane	<10	10	ug/l	8240	9/29/99 18:48	JAH
1,1,1-Trichloroethane	<10	10	ug/l	8240	9/29/99 18:48	JAH
carbon tetrachloride	<10	10	ug/l	8240	9/29/99 18:48	JAH
bromodichloromethane	<10	10	ug/l	8240	9/29/99 18:48	JAH
1,2-dichloropropane	<10	10	ug/l	8240	9/29/99 18:48	JAH
cis-1,3-dichloropropylene	<10	10	ug/l	8240	9/29/99 18:48	JAH
trichloroethylene	<10	10	ug/l	8240	9/29/99 18:48	JAH
trans-1,3-dichloropropylene	<10	10	ug/l	8240	9/29/99 18:48	JAH
1,1,2-Trichloroethane	<10	10	ug/l	8240	9/29/99 18:48	JAH
Dibromochloromethane	<10	10	ug/l	8240	9/29/99 18:48	JAH
Bromoform	<10	10	ug/l	8240	9/29/99 18:48	JAH
Tetrachloroethylene	<10	10	ug/l	8240	9/29/99 18:48	JAH
1,1,2,2-Tetrachloroethane	<10	10	ug/l	8240	9/29/99 18:48	JAH
Chlorobenzene	660	10	ug/l	8240	9/29/99 18:48	JAH
2-chloroethyl vinyl ether	<20	20	ug/l	8240	9/29/99 18:48	JAH
benzene	17	10	ug/l	8240	9/29/99 18:48	JAH
toluene	<10	10	ug/l	8240	9/29/99 18:48	JAH
ethylbenzene	<10	10	ug/l	8240	9/29/99 18:48	JAH
xlyenes	<10	10	ug/l	8240	9/29/99 18:48	JAH
acetone	<100	100	ug/l	8240	9/29/99 18:48	JAH
carbon disulfide	<50	50	ug/l	8240	9/29/99 18:48	JAH
2-butanone	<100	100	ug/l	8240	9/29/99 18:48	JAH
vinyl acetate	<500	500	ug/l	8240	9/29/99 18:48	JAH

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
 Date Received: 9/27/99
 Work Order # 9909-09206

Approved by:


R.I. Analytical

Sample #: 009

P-37-S GRAB 09/27/99 @1205

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone	<500	500	ug/l	8240	9/29/99 18:48	JAH
2-hexanone	<500	500	ug/l	8240	9/29/99 18:48	JAH
Styrene	<10	10	ug/l	8240	9/29/99 18:48	JAH
O-chlorotoluene	<10	10	ug/l	8240	9/29/99 18:48	JAH
1,2-Dichlorobenzene	<10	10	ug/l	8240	9/29/99 18:48	JAH
1,3-Dichlorobenzene	<10	10	ug/l	8240	9/29/99 18:48	JAH
1,4-Dichlorobenzene	<10	10	ug/l	8240	9/29/99 18:48	JAH
Surrogates		RANGE		8240	9/29/99 18:48	JAH
Dibromofluoromethane	97		86-118%	8240	9/29/99 18:48	JAH
4-Bromofluorobenzene	109		86-115%	8240	9/29/99 18:48	JAH
Toluene-D8	100		88-110%	8240	9/29/99 18:48	JAH

Volatile organic analyses performed under the operating guidelines method 8260.

METHOD 8240: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:

R.I. Analytical

Sample #: 010

SAMPLE DESCRIPTION: SW110 GRAB 09/27/99 @1230

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.8		SU	EPA 150.1	9/27/99 12:30	PAP
TEMPERATURE (field)	66		F	EPA 170.1	9/27/99 12:30	PAP
SPECIFIC CONDUCTANCE	325	1	uMHOS/CM	EPA 120.1	9/27/99 12:30	PAP
Dissolved Oxygen	1.2	1.0	mg/l	EPA 360.1	9/27/99 12:30	PAP
Volatile Organic Compounds						
chloromethane	<400	400	ug/l	8240	9/29/99 19:31	JAH
bromomethane	<400	400	ug/l	8240	9/29/99 19:31	JAH
vinyl chloride	<40	40	ug/l	8240	9/29/99 19:31	JAH
dichlorodifluoromethane	<400	400	ug/l	8240	9/29/99 19:31	JAH
chloroethane	<400	400	ug/l	8240	9/29/99 19:31	JAH
methylene chloride	<200	200	ug/l	8240	9/29/99 19:31	JAH
trichlorofluoromethane	<40	40	ug/l	8240	9/29/99 19:31	JAH
1,1-dichloroethylene	<40	40	ug/l	8240	9/29/99 19:31	JAH
1,1-dichloroethane	<40	40	ug/l	8240	9/29/99 19:31	JAH
trans-1,2-dichloroethylene	<40	40	ug/l	8240	9/29/99 19:31	JAH
chloroform	<40	40	ug/l	8240	9/29/99 19:31	JAH
1,2-dichloroethane	<40	40	ug/l	8240	9/29/99 19:31	JAH
1,1,1-Trichloroethane	<40	40	ug/l	8240	9/29/99 19:31	JAH
carbon tetrachloride	<40	40	ug/l	8240	9/29/99 19:31	JAH
bromodichloromethane	<40	40	ug/l	8240	9/29/99 19:31	JAH
1,2-dichloropropane	<40	40	ug/l	8240	9/29/99 19:31	JAH
cis-1,3-dichloropropylene	<40	40	ug/l	8240	9/29/99 19:31	JAH
trichloroethylene	<40	40	ug/l	8240	9/29/99 19:31	JAH
trans-1,3-dichloropropylene	<40	40	ug/l	8240	9/29/99 19:31	JAH
1,1,2-Trichloroethane	<40	40	ug/l	8240	9/29/99 19:31	JAH
Dibromochloromethane	<40	40	ug/l	8240	9/29/99 19:31	JAH
Bromoform	<40	40	ug/l	8240	9/29/99 19:31	JAH
Tetrachloroethylene	<40	40	ug/l	8240	9/29/99 19:31	JAH
1,1,2,2-Tetrachloroethane	<40	40	ug/l	8240	9/29/99 19:31	JAH
Chlorobenzene	2500	40	ug/l	8240	9/29/99 19:31	JAH
2-chloroethyl vinyl ether	<80	80	ug/l	8240	9/29/99 19:31	JAH
benzene	<40	40	ug/l	8240	9/29/99 19:31	JAH
toluene	220	40	ug/l	8240	9/29/99 19:31	JAH
ethylbenzene	<40	40	ug/l	8240	9/29/99 19:31	JAH
xylenes	<40	40	ug/l	8240	9/29/99 19:31	JAH
acetone	<400	400	ug/l	8240	9/29/99 19:31	JAH
carbon disulfide	<200	200	ug/l	8240	9/29/99 19:31	JAH
2-butanone	<400	400	ug/l	8240	9/29/99 19:31	JAH
vinyl acetate	<2000	2000	ug/l	8240	9/29/99 19:31	JAH

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

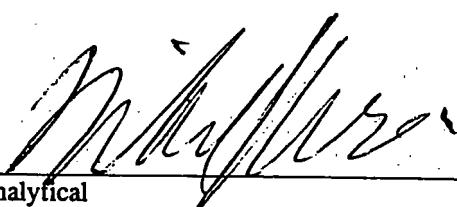
Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:

R.I. Analytical



Sample #: 010

SW110 GRAB 09/27/99 @1230

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone	<2000	2000	ug/l	8240	9/29/99 19:31	JAH
2-hexanone	<2000	2000	ug/l	8240	9/29/99 19:31	JAH
Styrene	<40	40	ug/l	8240	9/29/99 19:31	JAH
O-chlorotoluene	<40	40	ug/l	8240	9/29/99 19:31	JAH
1,2-Dichlorobenzene	<40	40	ug/l	8240	9/29/99 19:31	JAH
1,3-Dichlorobenzene	<40	40	ug/l	8240	9/29/99 19:31	JAH
1,4-Dichlorobenzene	<40	40	ug/l	8240	9/29/99 19:31	JAH
Surrogates		RANGE		8240	9/29/99 19:31	JAH
Dibromofluoromethane	97		86-118%	8240	9/29/99 19:31	JAH
4-Bromofluorobenzene	104		86-115%	8240	9/29/99 19:31	JAH
Toluene-D8	97		88-110%	8240	9/29/99 19:31	JAH

Volatile organic analyses performed under the operating guidelines
method 8260.

METHOD 8240: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:

R.I. Analytical

Sample #: 011

SAMPLE DESCRIPTION: MW-21-S GRAB 09/27/99 @1540

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.4		SU	EPA 150.1	9/27/99 15:40	PAP
TEMPERATURE (field)	66		F	EPA 170.1	9/27/99 15:40	PAP
SPECIFIC CONDUCTANCE	460	1	uMHOS/CM	EPA 120.1	9/27/99 15:40	PAP
Dissolved Oxygen	1.7	1.0	mg/l	EPA 360.1	9/27/99 15:40	PAP
Volatile Organic Compounds						
chloromethane	<400	400	ug/l	8240	9/30/99 17:19	JAH
bromomethane	<400	400	ug/l	8240	9/30/99 17:19	JAH
vinyl chloride	<40	40	ug/l	8240	9/30/99 17:19	JAH
dichlorodifluoromethane	<400	400	ug/l	8240	9/30/99 17:19	JAH
chloroethane	<400	400	ug/l	8240	9/30/99 17:19	JAH
methylene chloride	<200	200	ug/l	8240	9/30/99 17:19	JAH
trichlorofluoromethane	<40	40	ug/l	8240	9/30/99 17:19	JAH
1,1-dichloroethylene	<40	40	ug/l	8240	9/30/99 17:19	JAH
1,1-dichloroethane	<40	40	ug/l	8240	9/30/99 17:19	JAH
trans-1,2-dichloroethylene	<40	40	ug/l	8240	9/30/99 17:19	JAH
chloroform	<40	40	ug/l	8240	9/30/99 17:19	JAH
1,2-dichloroethane	<40	40	ug/l	8240	9/30/99 17:19	JAH
1,1,1-Trichloroethane	<40	40	ug/l	8240	9/30/99 17:19	JAH
carbon tetrachloride	<40	40	ug/l	8240	9/30/99 17:19	JAH
bromodichloromethane	<40	40	ug/l	8240	9/30/99 17:19	JAH
1,2-dichloropropane	<40	40	ug/l	8240	9/30/99 17:19	JAH
cis-1,3-dichloropropylene	<40	40	ug/l	8240	9/30/99 17:19	JAH
trichloroethylene	<40	40	ug/l	8240	9/30/99 17:19	JAH
trans-1,3-dichloropropylene	<40	40	ug/l	8240	9/30/99 17:19	JAH
1,1,2-Trichloroethane	<40	40	ug/l	8240	9/30/99 17:19	JAH
Dibromochloromethane	<40	40	ug/l	8240	9/30/99 17:19	JAH
Bromoform	<40	40	ug/l	8240	9/30/99 17:19	JAH
Tetrachloroethylene	<40	40	ug/l	8240	9/30/99 17:19	JAH
1,1,2,2-Tetrachloroethane	<40	40	ug/l	8240	9/30/99 17:19	JAH
Chlorobenzene	<40	40	ug/l	8240	9/30/99 17:19	JAH
2-chloroethyl vinyl ether	<80	80	ug/l	8240	9/30/99 17:19	JAH
benzene	<40	40	ug/l	8240	9/30/99 17:19	JAH
toluene	<40	40	ug/l	8240	9/30/99 17:19	JAH
ethylbenzene	<40	40	ug/l	8240	9/30/99 17:19	JAH
xylenes(Total)	110	40	ug/l	8240	9/30/99 17:19	JAH
acetone	<400	400	ug/l	8240	9/30/99 17:19	JAH
carbon disulfide	<200	200	ug/l	8240	9/30/99 17:19	JAH
2-butanone(MEK)	<400	400	ug/l	8240	9/30/99 17:19	JAH
vinyl acetate	<2000	2000	ug/l	8240	9/30/99 17:19	JAH

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:

R.I. Analytical

Sample #: 011

MW-21-S GRAB 09/27/99 @1540

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	<2000	2000	ug/l	8240	9/30/99 17:19	JAH
2-hexanone	<2000	2000	ug/l	8240	9/30/99 17:19	JAH
Styrene	<40	40	ug/l	8240	9/30/99 17:19	JAH
o-chlorotoluene	8100	40	ug/l	8240	9/30/99 17:19	JAH
1,2-Dichlorobenzene	<40	40	ug/l	8240	9/30/99 17:19	JAH
1,3-Dichlorobenzene	<40	40	ug/l	8240	9/30/99 17:19	JAH
1,4-Dichlorobenzene	<40	40	ug/l	8240	9/30/99 17:19	JAH
Surrogates		RANGE		8240	9/30/99 17:19	JAH
Dibromofluoromethane	99		86-118%	8240	9/30/99 17:19	JAH
4-Bromofluorobenzene	107		86-115%	8240	9/30/99 17:19	JAH
Toluene-D8	100		88-110%	8240	9/30/99 17:19	JAH

Volatile organic analyses performed under the operating guidelines method 8260.

METHOD 8240: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:

R.I. Analytical

Sample #: 012

SAMPLE DESCRIPTION: P-38S GRAB 09/27/99 @1355

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.6		SU	EPA 150.1	9/27/99 13:55	PAP
TEMPERATURE (field)	62		F	EPA 170.1	9/27/99 13:55	PAP
SPECIFIC CONDUCTANCE	317	1	uMHOS/CM	EPA 120.1	9/27/99 13:55	PAP
Dissolved Oxygen	1.8	1.0	mg/l	EPA 360.1	9/27/99 13:55	PAP
Volatile Organic Compounds						
chloromethane	<10	10	ug/l	8240	9/29/99 20:14	JAH
bromomethane	<10	10	ug/l	8240	9/29/99 20:14	JAH
vinyl chloride	<1	1	ug/l	8240	9/29/99 20:14	JAH
dichlorodifluoromethane	<10	10	ug/l	8240	9/29/99 20:14	JAH
chloroethane	<10	10	ug/l	8240	9/29/99 20:14	JAH
methylene chloride	<5	5	ug/l	8240	9/29/99 20:14	JAH
trichlorofluoromethane	<1	1	ug/l	8240	9/29/99 20:14	JAH
1,1-dichloroethylene	<1	1	ug/l	8240	9/29/99 20:14	JAH
1,1-dichloroethane	<1	1	ug/l	8240	9/29/99 20:14	JAH
trans-1,2-dichloroethylene	<1	1	ug/l	8240	9/29/99 20:14	JAH
chloroform	<1	1	ug/l	8240	9/29/99 20:14	JAH
1,2-dichloroethane	<1	1	ug/l	8240	9/29/99 20:14	JAH
1,1,1-Trichloroethane	<1	1	ug/l	8240	9/29/99 20:14	JAH
carbon tetrachloride	<1	1	ug/l	8240	9/29/99 20:14	JAH
bromodichloromethane	<1	1	ug/l	8240	9/29/99 20:14	JAH
1,2-dichloropropene	<1	1	ug/l	8240	9/29/99 20:14	JAH
cis-1,3-dichloropropylene	<1	1	ug/l	8240	9/29/99 20:14	JAH
trichloroethylene	<1	1	ug/l	8240	9/29/99 20:14	JAH
trans-1,3-dichloropropylene	<1	1	ug/l	8240	9/29/99 20:14	JAH
1,1,2-Trichloroethane	<1	1	ug/l	8240	9/29/99 20:14	JAH
Dibromochloromethane	<1	1	ug/l	8240	9/29/99 20:14	JAH
Bromoform	<1	1	ug/l	8240	9/29/99 20:14	JAH
Tetrachloroethylene	<1	1	ug/l	8240	9/29/99 20:14	JAH
1,1,2,2-Tetrachloroethane	<1	1	ug/l	8240	9/29/99 20:14	JAH
Chlorobenzene	1	1	ug/l	8240	9/29/99 20:14	JAH
2-chloroethyl vinyl ether	<2	2	ug/l	8240	9/29/99 20:14	JAH
benzene	<1	1	ug/l	8240	9/29/99 20:14	JAH
toluene	<1	1	ug/l	8240	9/29/99 20:14	JAH
ethylbenzene	<1	1	ug/l	8240	9/29/99 20:14	JAH
xylenes	<1	1	ug/l	8240	9/29/99 20:14	JAH
acetone	<10	10	ug/l	8240	9/29/99 20:14	JAH
carbon disulfide	<5	5	ug/l	8240	9/29/99 20:14	JAH
2-butanone	<10	10	ug/l	8240	9/29/99 20:14	JAH
vinyl acetate	<50	50	ug/l	8240	9/29/99 20:14	JAH

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:

R.I. Analytical

Sample #: 012

P-38S GRAB 09/27/99 @1355

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone	<50	50	ug/l	8240	9/29/99 20:14	JAH
2-hexanone	<50	50	ug/l	8240	9/29/99 20:14	JAH
Styrene	<1	1	ug/l	8240	9/29/99 20:14	JAH
O-chlorotoluene	<1	1	ug/l	8240	9/29/99 20:14	JAH
1,2-Dichlorobenzene	<1	1	ug/l	8240	9/29/99 20:14	JAH
1,3-Dichlorobenzene	<1	1	ug/l	8240	9/29/99 20:14	JAH
1,4-Dichlorobenzene	<1	1	ug/l	8240	9/29/99 20:14	JAH
Surrogates			RANGE	8240	9/29/99 20:14	JAH
Dibromofluoromethane	99		86-118%	8240	9/29/99 20:14	JAH
4-Bromofluorobenzene	107		86-115%	8240	9/29/99 20:14	JAH
Toluene-D8	100		88-110%	8240	9/29/99 20:14	JAH

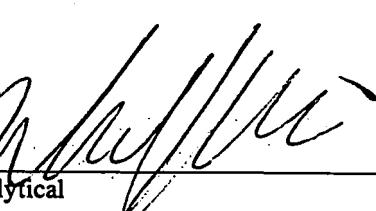
Volatile organic analyses performed under the operating guidelines
method 8260.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
 Date Received: 9/27/99
 Work Order # 9909-09206

Approved by:


R.I. Analytical

Sample #: 013

SAMPLE DESCRIPTION: MW-12-S GRAB 09/27/99 @1430

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.8		SU	EPA 150.1	9/27/99 14:30	PAP
TEMPERATURE (field)	66		F	EPA 170.1	9/27/99 14:30	PAP
SPECIFIC CONDUCTANCE	407	1	µMHOS/CM	EPA 120.1	9/27/99 14:30	PAP
Dissolved Oxygen	1.8	1.0	mg/l	EPA 360.1	9/27/99 14:30	PAP
Volatile Organic Compounds						
chloromethane	<10	10	ug/l	8240	9/28/99 21:27	JAH
bromomethane	<10	10	ug/l	8240	9/28/99 21:27	JAH
vinyl chloride	<1	1	ug/l	8240	9/28/99 21:27	JAH
dichlorodifluoromethane	<10	10	ug/l	8240	9/28/99 21:27	JAH
chloroethane	<10	10	ug/l	8240	9/28/99 21:27	JAH
methylene chloride	<5	5	ug/l	8240	9/28/99 21:27	JAH
trichlorofluoromethane	<1	1	ug/l	8240	9/28/99 21:27	JAH
1,1-dichloroethylene	<1	1	ug/l	8240	9/28/99 21:27	JAH
1,1-dichloroethane	<1	1	ug/l	8240	9/28/99 21:27	JAH
trans-1,2-dichloroethylene	<1	1	ug/l	8240	9/28/99 21:27	JAH
chloroform	<1	1	ug/l	8240	9/28/99 21:27	JAH
1,2-dichloroethane	<1	1	ug/l	8240	9/28/99 21:27	JAH
1,1,1-Trichloroethane	<1	1	ug/l	8240	9/28/99 21:27	JAH
carbon tetrachloride	<1	1	ug/l	8240	9/28/99 21:27	JAH
bromodichloromethane	<1	1	ug/l	8240	9/28/99 21:27	JAH
1,2-dichloropropane	<1	1	ug/l	8240	9/28/99 21:27	JAH
cis-1,3-dichloropropylene	<1	1	ug/l	8240	9/28/99 21:27	JAH
trichloroethylene	<1	1	ug/l	8240	9/28/99 21:27	JAH
trans-1,3-dichloropropylene	<1	1	ug/l	8240	9/28/99 21:27	JAH
1,1,2-Trichloroethane	<1	1	ug/l	8240	9/28/99 21:27	JAH
Dibromochloromethane	<1	1	ug/l	8240	9/28/99 21:27	JAH
Bromoform	<1	1	ug/l	8240	9/28/99 21:27	JAH
Tetrachloroethylene	<1	1	ug/l	8240	9/28/99 21:27	JAH
1,1,2,2-Tetrachloroethane	<1	1	ug/l	8240	9/28/99 21:27	JAH
Chlorobenzene	<1	1	ug/l	8240	9/28/99 21:27	JAH
2-chloroethyl vinyl ether	<2	2	ug/l	8240	9/28/99 21:27	JAH
benzene	<1	1	ug/l	8240	9/28/99 21:27	JAH
toluene	<1	1	ug/l	8240	9/28/99 21:27	JAH
ethylbenzene	6	1	ug/l	8240	9/28/99 21:27	JAH
xlyenes	6	1	ug/l	8240	9/28/99 21:27	JAH
acetone	<10	10	ug/l	8240	9/28/99 21:27	JAH
carbon disulfide	<5	5	ug/l	8240	9/28/99 21:27	JAH
2-butanone	<10	10	ug/l	8240	9/28/99 21:27	JAH
vinyl acetate	<50	50	ug/l	8240	9/28/99 21:27	JAH

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:

R.I. Analytical

Sample #: 013

MW-12-S GRAB 09/27/99 @1430

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone	<50	50	ug/l	8240	9/28/99 21:27	JAH
2-hexanone	<50	50	ug/l	8240	9/28/99 21:27	JAH
Styrene	<1	1	ug/l	8240	9/28/99 21:27	JAH
O-chlorotoluene	<1	1	ug/l	8240	9/28/99 21:27	JAH
1,2-Dichlorobenzene	58	1	ug/l	8240	9/28/99 21:27	JAH
1,3-Dichlorobenzene	<1	1	ug/l	8240	9/28/99 21:27	JAH
1,4-Dichlorobenzene	<1	1	ug/l	8240	9/28/99 21:27	JAH
Surrogates			RANGE	8240	9/28/99 21:27	JAH
Dibromofluoromethane	100		86-118%	8240	9/28/99 21:27	JAH
4-Bromofluorobenzene	103		86-115%	8240	9/28/99 21:27	JAH
Toluene-D8	103		88-110%	8240	9/28/99 21:27	JAH

Volatile organic analyses performed under the operating guidelines
method 8260.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:

R.I. Analytical

Sample #: 014

SAMPLE DESCRIPTION: MW-04S GRAB 09/27/99 @1505

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.3		SU	EPA 150.1	9/27/99 15:05	PAP
TEMPERATURE (field)	66		F	EPA 170.1	9/27/99 15:05	PAP
SPECIFIC CONDUCTANCE	520	1	µMHOS/CM	EPA 120.1	9/27/99 15:05	PAP
Dissolved Oxygen	2.1	1.0	mg/l	EPA 360.1	9/27/99 15:05	PAP
Volatile Organic Compounds						
chloromethane	<200	200	ug/l	8240	10/01/99 13:35	JAH
bromomethane	<200	200	ug/l	8240	10/01/99 13:35	JAH
vinyl chloride	<20	20	ug/l	8240	10/01/99 13:35	JAH
dichlorodifluoromethane	<200	200	ug/l	8240	10/01/99 13:35	JAH
chloroethane	<200	200	ug/l	8240	10/01/99 13:35	JAH
methylene chloride	<100	100	ug/l	8240	10/01/99 13:35	JAH
trichlorofluoromethane	<20	20	ug/l	8240	10/01/99 13:35	JAH
1,1-dichloroethylene	<20	20	ug/l	8240	10/01/99 13:35	JAH
1,1-dichloroethane	<20	20	ug/l	8240	10/01/99 13:35	JAH
trans-1,2-dichloroethylene	<20	20	ug/l	8240	10/01/99 13:35	JAH
chloroform	<20	20	ug/l	8240	10/01/99 13:35	JAH
1,2-dichloroethane	<20	20	ug/l	8240	10/01/99 13:35	JAH
1,1,1-Trichloroethane	<20	20	ug/l	8240	10/01/99 13:35	JAH
carbon tetrachloride	<20	20	ug/l	8240	10/01/99 13:35	JAH
bromodichloromethane	<20	20	ug/l	8240	10/01/99 13:35	JAH
1,2-dichloropropene	<20	20	ug/l	8240	10/01/99 13:35	JAH
cis-1,3-dichloropropylene	<20	20	ug/l	8240	10/01/99 13:35	JAH
trichloroethylene	<20	20	ug/l	8240	10/01/99 13:35	JAH
trans-1,3-dichloropropylene	<20	20	ug/l	8240	10/01/99 13:35	JAH
1,1,2-Trichloroethane	<20	20	ug/l	8240	10/01/99 13:35	JAH
Dibromochloromethane	<20	20	ug/l	8240	10/01/99 13:35	JAH
Bromoform	<20	20	ug/l	8240	10/01/99 13:35	JAH
Tetrachloroethylene	<20	20	ug/l	8240	10/01/99 13:35	JAH
1,1,2,2-Tetrachloroethane	<20	20	ug/l	8240	10/01/99 13:35	JAH
Chlorobenzene	93	20	ug/l	8240	10/01/99 13:35	JAH
2-chloroethyl vinyl ether	<40	40	ug/l	8240	10/01/99 13:35	JAH
benzene	<20	20	ug/l	8240	10/01/99 13:35	JAH
toluene	<20	20	ug/l	8240	10/01/99 13:35	JAH
ethylbenzene	<20	20	ug/l	8240	10/01/99 13:35	JAH
styrene	79	20	ug/l	8240	10/01/99 13:35	JAH
acetone	<200	200	ug/l	8240	10/01/99 13:35	JAH
carbon disulfide	<100	100	ug/l	8240	10/01/99 13:35	JAH
2-butanone	<200	200	ug/l	8240	10/01/99 13:35	JAH
vinyl acetate	<1000	1000	ug/l	8240	10/01/99 13:35	JAH

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:


R.I. Analytical

Sample #: 014

MW-04S GRAB 09/27/99 @1505

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone	<1000	1000	ug/l	8240	10/01/99 13:35	JAH
2-hexanone	<1000	1000	ug/l	8240	10/01/99 13:35	JAH
Styrene	<20	20	ug/l	8240	10/01/99 13:35	JAH
O-chlorotoluene	400	20	ug/l	8240	10/01/99 13:35	JAH
1,2-Dichlorobenzene	31	20	ug/l	8240	10/01/99 13:35	JAH
1,3-Dichlorobenzene	<20	20	ug/l	8240	10/01/99 13:35	JAH
1,4-Dichlorobenzene	<20	20	ug/l	8240	10/01/99 13:35	JAH
Surrogates		RANGE		8240	10/01/99 13:35	JAH
Dibromofluoromethane	99		86-118%	8240	10/01/99 13:35	JAH
4-Bromofluorobenzene	110		86-115%	8240	10/01/99 13:35	JAH
Styrene-D8	100		88-110%	8240	10/01/99 13:35	JAH

Volatile organic analyses performed under the operating guidelines
method 8260.

METHOD 8240: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:

R.I. Analytical

Sample #: 015

SAMPLE DESCRIPTION: P-35S DUP GRAB 09/27/99 @0925

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
Volatile Organic Compounds						
chloromethane	<400	400	ug/l	8240	9/28/99 18:34	JAH
bromomethane	<400	400	ug/l	8240	9/28/99 18:34	JAH
vinyl chloride	<40	40	ug/l	8240	9/28/99 18:34	JAH
dichlorodifluoromethane	<400	400	ug/l	8240	9/28/99 18:34	JAH
chloroethane	<400	400	ug/l	8240	9/28/99 18:34	JAH
methylene chloride	<200	200	ug/l	8240	9/28/99 18:34	JAH
trichlorofluoromethane	<40	40	ug/l	8240	9/28/99 18:34	JAH
1,1-dichloroethylene	<40	40	ug/l	8240	9/28/99 18:34	JAH
1,1-dichloroethane	<40	40	ug/l	8240	9/28/99 18:34	JAH
trans-1,2-dichloroethylene	<40	40	ug/l	8240	9/28/99 18:34	JAH
chloroform	<40	40	ug/l	8240	9/28/99 18:34	JAH
1,2-dichloroethane	<40	40	ug/l	8240	9/28/99 18:34	JAH
1,1,1-Trichloroethane	<40	40	ug/l	8240	9/28/99 18:34	JAH
carbon tetrachloride	<40	40	ug/l	8240	9/28/99 18:34	JAH
bromodichloromethane	<40	40	ug/l	8240	9/28/99 18:34	JAH
1,2-dichloropropane	<40	40	ug/l	8240	9/28/99 18:34	JAH
cis-1,3-dichloropropylene	<40	40	ug/l	8240	9/28/99 18:34	JAH
trichloroethylene	<40	40	ug/l	8240	9/28/99 18:34	JAH
trans-1,3-dichloropropylene	<40	40	ug/l	8240	9/28/99 18:34	JAH
1,1,2-Trichloroethane	<40	40	ug/l	8240	9/28/99 18:34	JAH
Dibromochloromethane	<40	40	ug/l	8240	9/28/99 18:34	JAH
Bromoform	<40	40	ug/l	8240	9/28/99 18:34	JAH
Tetrachloroethylene	<40	40	ug/l	8240	9/28/99 18:34	JAH
1,1,2,2-Tetrachloroethane	<40	40	ug/l	8240	9/28/99 18:34	JAH
Chlorobenzene	400	40	ug/l	8240	9/28/99 18:34	JAH
2-chloroethyl vinyl ether	<80	80	ug/l	8240	9/28/99 18:34	JAH
benzene	<40	40	ug/l	8240	9/28/99 18:34	JAH
toluene	<40	40	ug/l	8240	9/28/99 18:34	JAH
ethylbenzene	<40	40	ug/l	8240	9/28/99 18:34	JAH
xlenes	<40	40	ug/l	8240	9/28/99 18:34	JAH
acetone	<400	400	ug/l	8240	9/28/99 18:34	JAH
carbon disulfide	<200	200	ug/l	8240	9/28/99 18:34	JAH
2-butanone	<400	400	ug/l	8240	9/28/99 18:34	JAH
ethyl acetate	<2000	2000	ug/l	8240	9/28/99 18:34	JAH
4-methyl-2-pentanone	<2000	2000	ug/l	8240	9/28/99 18:34	JAH
2-hexanone	<2000	2000	ug/l	8240	9/28/99 18:34	JAH
Styrene	<40	40	ug/l	8240	9/28/99 18:34	JAH
O-chlorotoluene	<40	40	ug/l	8240	9/28/99 18:34	JAH

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:

R.I. Analytical

Sample #: 015

P-35S DUP GRAB 09/27/99 @0925

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
1,2-Dichlorobenzene	< 40	40	ug/l	8240	9/28/99 18:34	JAH
1,3-Dichlorobenzene	< 40	40	ug/l	8240	9/28/99 18:34	JAH
1,4-Dichlorobenzene	< 40	40	ug/l	8240	9/28/99 18:34	JAH
Surrogates			RANGE	8240	9/28/99 18:34	JAH
Dibromofluoromethane	99		86-118%	8240	9/28/99 18:34	JAH
4-Bromofluorobenzene	101		86-115%	8240	9/28/99 18:34	JAH
Toluene-D8	106		88-110%	8240	9/28/99 18:34	JAH

Volatile organic analyses performed under the operating guidelines
method 8260.

METHOD 8240: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:

R.I. Analytical

Sample #: 016

SAMPLE DESCRIPTION: EQUIPMENT BLK GRAB 09/27/99 @0805

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
Volatile Organic Compounds						
chloromethane	<10	10	ug/l	8240	9/30/99 15:36	JAH
bromomethane	<10	10	ug/l	8240	9/30/99 15:36	JAH
vinyl chloride	<1	1	ug/l	8240	9/30/99 15:36	JAH
dichlorodifluoromethane	<10	10	ug/l	8240	9/30/99 15:36	JAH
chloroethane	<10	10	ug/l	8240	9/30/99 15:36	JAH
methylene chloride	<5	5	ug/l	8240	9/30/99 15:36	JAH
trichlorofluoromethane	<1	1	ug/l	8240	9/30/99 15:36	JAH
1,1-dichloroethylene	<1	1	ug/l	8240	9/30/99 15:36	JAH
1-dichloroethane	<1	1	ug/l	8240	9/30/99 15:36	JAH
trans-1,2-dichloroethylene	<1	1	ug/l	8240	9/30/99 15:36	JAH
chloroform	<1	1	ug/l	8240	9/30/99 15:36	JAH
1,2-dichloroethane	<1	1	ug/l	8240	9/30/99 15:36	JAH
1,1,1-Trichloroethane	<1	1	ug/l	8240	9/30/99 15:36	JAH
carbon tetrachloride	<1	1	ug/l	8240	9/30/99 15:36	JAH
bromodichloromethane	<1	1	ug/l	8240	9/30/99 15:36	JAH
1,2-dichloropropane	<1	1	ug/l	8240	9/30/99 15:36	JAH
cis-1,3-dichloropropylene	<1	1	ug/l	8240	9/30/99 15:36	JAH
trichloroethylene	<1	1	ug/l	8240	9/30/99 15:36	JAH
trans-1,3-dichloropropylene	<1	1	ug/l	8240	9/30/99 15:36	JAH
1,1,2-Trichloroethane	<1	1	ug/l	8240	9/30/99 15:36	JAH
Dibromochloromethane	<1	1	ug/l	8240	9/30/99 15:36	JAH
Bromoform	<1	1	ug/l	8240	9/30/99 15:36	JAH
Tetrachloroethylene	<1	1	ug/l	8240	9/30/99 15:36	JAH
1,1,2,2-Tetrachloroethane	<1	1	ug/l	8240	9/30/99 15:36	JAH
Chlorobenzene	<1	1	ug/l	8240	9/30/99 15:36	JAH
2-chloroethyl vinyl ether	<2	2	ug/l	8240	9/30/99 15:36	JAH
benzene	<1	1	ug/l	8240	9/30/99 15:36	JAH
toluene	<1	1	ug/l	8240	9/30/99 15:36	JAH
ethylbenzene	<1	1	ug/l	8240	9/30/99 15:36	JAH
xylenes	<1	1	ug/l	8240	9/30/99 15:36	JAH
acetone	<10	10	ug/l	8240	9/30/99 15:36	JAH
carbon disulfide	<5	5	ug/l	8240	9/30/99 15:36	JAH
2-butanone	<10	10	ug/l	8240	9/30/99 15:36	JAH
vinyl acetate	<50	50	ug/l	8240	9/30/99 15:36	JAH
4-methyl-2-pentanone	<50	50	ug/l	8240	9/30/99 15:36	JAH
2-hexanone	<50	50	ug/l	8240	9/30/99 15:36	JAH
Styrene	<1	1	ug/l	8240	9/30/99 15:36	JAH
O-chlorotoluene	<1	1	ug/l	8240	9/30/99 15:36	JAH

R.I. Analytical Laboratories, Inc.

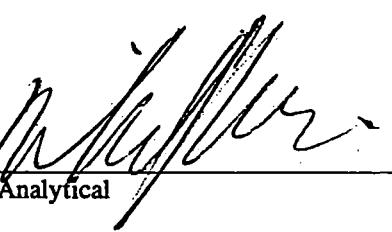
CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:


R.I. Analytical

Sample #: 016

EQUIPMENT BLK GRAB 09/27/99 @0805

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
1,2-Dichlorobenzene	<1	1	ug/l	8240	9/30/99 15:36	JAH
1,3-Dichlorobenzene	<1	1	ug/l	8240	9/30/99 15:36	JAH
1,4-Dichlorobenzene	<1	1	ug/l	8240	9/30/99 15:36	JAH
Surrogates			RANGE	8240	9/30/99 15:36	JAH
Dibromofluoromethane	98		86-118%	8240	9/30/99 15:36	JAH
4-Bromofluorobenzene	109		86-115%	8240	9/30/99 15:36	JAH
Toluene-D8	98		88-110%	8240	9/30/99 15:36	JAH

Volatile organic analyses performed under the operating guidelines
method 8260.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:

R.I. Analytical

Sample #: 017

SAMPLE DESCRIPTION: TRIP BLK GRAB 09/27/99 @0830

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
Volatile Organic Compounds						
chloromethane	<10	10	ug/l	8240	9/30/99 16:35	JAH
bromomethane	<10	10	ug/l	8240	9/30/99 16:35	JAH
vinyl chloride	<1	1	ug/l	8240	9/30/99 16:35	JAH
dichlorodifluoromethane	<10	10	ug/l	8240	9/30/99 16:35	JAH
chloroethane	<10	10	ug/l	8240	9/30/99 16:35	JAH
methylene chloride	<5	5	ug/l	8240	9/30/99 16:35	JAH
trichlorofluoromethane	<1	1	ug/l	8240	9/30/99 16:35	JAH
1,1-dichloroethylene	<1	1	ug/l	8240	9/30/99 16:35	JAH
1,1-dichloroethane	<1	1	ug/l	8240	9/30/99 16:35	JAH
trans-1,2-dichloroethylene	<1	1	ug/l	8240	9/30/99 16:35	JAH
chloroform	<1	1	ug/l	8240	9/30/99 16:35	JAH
1,2-dichloroethane	<1	1	ug/l	8240	9/30/99 16:35	JAH
1,1,1-Trichloroethane	<1	1	ug/l	8240	9/30/99 16:35	JAH
carbon tetrachloride	<1	1	ug/l	8240	9/30/99 16:35	JAH
bromodichloromethane	<1	1	ug/l	8240	9/30/99 16:35	JAH
1,2-dichloropropane	<1	1	ug/l	8240	9/30/99 16:35	JAH
cis-1,3-dichloropropylene	<1	1	ug/l	8240	9/30/99 16:35	JAH
trichloroethylene	<1	1	ug/l	8240	9/30/99 16:35	JAH
trans-1,3-dichloropropylene	<1	1	ug/l	8240	9/30/99 16:35	JAH
1,1,2-Trichloroethane	<1	1	ug/l	8240	9/30/99 16:35	JAH
Dibromochloromethane	<1	1	ug/l	8240	9/30/99 16:35	JAH
Bromoform	<1	1	ug/l	8240	9/30/99 16:35	JAH
Tetrachloroethylene	<1	1	ug/l	8240	9/30/99 16:35	JAH
1,1,2,2-Tetrachloroethane	<1	1	ug/l	8240	9/30/99 16:35	JAH
Chlorobenzene	<1	1	ug/l	8240	9/30/99 16:35	JAH
2-chloroethyl vinyl ether	<2	2	ug/l	8240	9/30/99 16:35	JAH
benzene	<1	1	ug/l	8240	9/30/99 16:35	JAH
toluene	<1	1	ug/l	8240	9/30/99 16:35	JAH
ethylbenzene	<1	1	ug/l	8240	9/30/99 16:35	JAH
xylenes	<1	1	ug/l	8240	9/30/99 16:35	JAH
acetone	<10	10	ug/l	8240	9/30/99 16:35	JAH
carbon disulfide	<5	5	ug/l	8240	9/30/99 16:35	JAH
2-butanone	<10	10	ug/l	8240	9/30/99 16:35	JAH
vinyl acetate	<50	50	ug/l	8240	9/30/99 16:35	JAH
4-methyl-2-pentanone	<50	50	ug/l	8240	9/30/99 16:35	JAH
2-hexanone	<50	50	ug/l	8240	9/30/99 16:35	JAH
Styrene	<1	1	ug/l	8240	9/30/99 16:35	JAH
O-chlorotoluene	<1	1	ug/l	8240	9/30/99 16:35	JAH

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 9/27/99

Work Order # 9909-09206

Approved by:

R.I. Analytical

Sample #: 017

TRIP BLK GRAB 09/27/99 @0830

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
1,2-Dichlorobenzene	<1	1	ug/l	8240	9/30/99 16:35	JAH
1,3-Dichlorobenzene	<1	1	ug/l	8240	9/30/99 16:35	JAH
1,4-Dichlorobenzene	<1	1	ug/l	8240	9/30/99 16:35	JAH
Surrogates			RANGE	8240	9/30/99 16:35	JAH
Dibromofluoromethane	98		86-118%	8240	9/30/99 16:35	JAH
4-Bromofluorobenzene	107		86-115%	8240	9/30/99 16:35	JAH
Toluene-D8	99		88-110%	8240	9/30/99 16:35	JAH

Volatile organic analyses performed under the operating guidelines
method 8260.

R.I. Analytical Laboratories, Inc.

41 Illinois Avenue
Warwick, RI 02888
Phone: (401) 737-8500
Fax: (401) 738-1970

950 Boylston Street, Unit 102
Newton Highlands, MA 02461
Phone: (617) 965-5133
Fax: (617) 965-5624

CHAIN OF CUSTODY RECORDPage 1 of 2

Container Type Codes:
P=Plastic AG=Amber Glass
G=Glass St=Sterile
V=Vial
O=Other (describe)

Preservative Codes:
NP=Non preserved S=Sulfuric
I=Cooled 4°C H=HCL
N=Nitric SH=NaOH
M=Methanol SB=NaHSO4
O=Other (describe)

Matrix Codes:
GW=Groundwater S=Soil
WW=Wastewater SI=Sludge
DW=Drinking water A=Air
O=Other (describe) B=Bulk/Solid

Date Collected	Time Collected	Sample ID	G=Grab C=Comp.	Containers # + (code)	Preservative (code)	Matrix (code)	Analysis Request
9-27-99	0815	MW-025	G	2V	H	GW	8240 w/ 10 chlorotoluene & pt, temp, scond, DO.
	0900	SW120					
	0925	P-35S					
	0940	PW120					
	1010	P36S					
	1135	MW01S					
	1100	SW130					
	1120	PW110					
	1205	P-37-S					
	1230	SW110					

Client Information

Company Name: <i>Ciba Geigy</i>	Project Name / Location: <i>CRANSTON SITE</i>
Address:	P.O. Number / Project Number:
City / State / Zip:	Project Manager / Report To:
Phone: 908-914-2737	Sampled by: <i>Paul Perrotti/Justin Blain</i>
Fax: 908-914-2909	Reference Proposal:
Contact: <i>BARRY COHEN</i>	

Relinquished by:	Date	Time	Received by:	Date	Time
<i>John P. Fi</i>	9-27-99	7200	SDUTT	9/27/99	1540

Turn Around Time:

Normal

5 business days
Surcharges may apply

Rush (business days)

Project Comments:

Field Data Attached

RIAL USE ONLY:

Pick-Up Only

RIAL Sampled

Shipped on Ice

RIAL W.O. # *9206*

R.I. Analytical Laboratories, Inc.

41 Illinois Avenue
Warwick, RI 02888
Phone: (401) 737-8500
Fax: (401) 738-1970

950 Boylston Street, Unit 102
Newton Highlands, MA 02461
Phone: (617) 965-5133
Fax: (617) 965-5624

CHAIN OF CUSTODY RECORD

Page 2 of 2

Container Type Codes:		Preservative Codes:		Matrix Codes:	
P=Plastic	AG=Amber Glass	NP=Non preserved	S=Sulfuric	GW=Groundwater	S=Soil
G=Glass	St=Sterile	I=Cooled 4°C	H=HCL	WW=Wastewater	SI=Sludge
V=Vial	N=Nitric	SH=NaOH	DW=Drinking water	A=Air	O=Other (describe)
O=Other (describe)	M=Methanol	SB=NaHSO4	B=Bulk/Solid		

Date Collected	Time Collected	Sample ID	G=Grab C=Comp.	Containers # + (code)	Preservative (code)	Matrix (code)	Analysis Request
9-27-99	1540	MW-21-S	G	2V	H	GW	8240 w/o CHLOROTOLUENE & pH, Temp, Secy, DO.
↑	1355	P-38-S					
↓	1430	MW-12-S					
↓	1505	MW-04-S					
↓	0925	P-35S DUP					
↓	0805	EQUIPMENT BIK				DI	
9-24-99	0830	TRIP BIK		↓	↓	DI	↓

Client Information**Project Information**Company Name: *Ciba Geigy*

Address:

City / State / Zip:

Phone: 908-914-7137 Fax: 908-914-2908

Contact: *Barry Cohen*Project Name / Location: *COLLUSION SITE*

P.O. Number / Project Number:

Project Manager / Report To:

Sampled by: *Paul Persoff, Joshua Blair*

Reference Proposal:

Relinquished by:	Date	Time	Received by:	Date	Time
<i>Paul Persoff</i>	9/27/99	1700	SDU/T	9/27/99	1540

Turn Around Time:
<input checked="" type="checkbox"/> Normal
<input type="checkbox"/> 5 business days Surcharges may apply
<input type="checkbox"/> Rush _____ (business days)

Project Comments:** Field Data Attached*

RIAL USE ONLY:
<input type="checkbox"/> Pick-Up Only
<input checked="" type="checkbox"/> RIAL Sampled
<input checked="" type="checkbox"/> Shipped on Ice

RIAL W.O. # *9206*



SERVICE AGREEMENT

PAGE 2 OF 4

\$410.00

Customer Name: CIBA SPECIALTY CHEMICALS

Service Agreement No: 97086661D

TOTAL MONTHLY CHARGE:

Line Item	Model No.	Ser/Serv ID	Description/Location/Adjustment	Eff Date	Service Level	M-F	Sa	R	Exempt	Qty	Unit Price	Monthly Price
3.000	DA-251P1-J9	NIS2602T8H	Following located at: BLDG 310 REMEDIATION WEBER RT. 37 WEST 800-354-9000 For service call: AS2100 Special EDU Pkg UNIX WARRANTY EXPIRES 31-JUL-98	01-DEC-99	DECSERVICE	09 00 00				1	164.00	\$164.00
3.001	TLZ07-LG	3D51700860	8GB 4mm Tape Drive 5.25" Int.	01-DEC-99	DECSERVICE	09 00 00				1	31.00	\$31.00
3.002	VRT17-HA	SY50932093	17"(16.0"VIEWABLE)MONITOR NH Sys Type/Ser#: A2150 / NIS2602T8H CSC Access #: 879283	01-DEC-99	DECSERVICE	09 00 00				1	17.00	\$17.00
C 4.000	FR-842WW-A9	KA521AHYDY	Following located at: BLDG 310 800-354-9000 For service call: CelebrisFP 590 Kernel,S3864 "SYSTEM ONLY"	01-DEC-99	DECSERVICE	09 00 00				1	19.00	\$19.00
4.001	FR-763AA-AB	KA408LEY63	433dxLPx,pwrcrd,2-button	01-DEC-99	DECSERVICE	09 00 00				1	17.00	\$17.00
4.002	PCXBV-PC	7C412SS71	15" CLR MON,LE,POWER MGT	01-DEC-99	DECSERVICE	09 00 00				1	0.00	\$0.00
*** TOTAL MONTHLY CHARGE												

J. NUMBER

T0090956

VENDOR NO.

T1296000

ORDERING P. LMP. NO.

045772

DUE DATE

SUGGESTED VENDOR

JAY BEE ENT.

VENDOR PHONE NO. 609-863-8088

VENDER FAX NO.

WILLIAMSTOWN, N.J. 08094

(FAX NO. REQUIRED IF NEW VENDER)

REQ. NO.

ITEM	QUANTITY	UOM	CODE NUMBER	DESCRIPTION	UNIT PRICE	Balance Sheet Accounts	Proj.No/Cost Center No.
1				MOVES AND ADDITIONS		\$5004600	1650.950
2				TO ANALOG PHONE LINES			
3				IN 743 & 743E			
4							
5				COPY			
6							
7							
8							
9				NTE	750.00		
10							
11							
12							

FOR USE BY ORDERING PARTY (ANY CONDITIONS RESTRICTING COMPETITIVE PURCHASE MUST BE NOTED HERE IF NONE, SO STATE.)

ORDERED BY

P. SHERRY

Routine

APPROVED BY

Extension: 2563

Or Req. Delivery

DATE 1-15-87 EXT

J092260

APPENDIX C
TIME-SERIES
FOR
UPGRADIENT WELLS

Table 3
UPGRADIENT WELLS
Cumulative Results for Chemicals Of Concern
(Units in ppb)

Well No.	MPS Date Sampled	94 1,2-Dichloro- benzene	1700 Chloro- benzene	1500 o-Chloro- toluene	1700 Toluene	76 Xylenes
MW-004S	6-Mar-96	89	210	1700	2100	300
MW-004S	1-May-96	88	130	1200	1500	160
MW-004S	9-Apr-97	43	44	160	88	100
MW-004S	8-Oct-97	72	41	660	370	480
MW-004S	28-Apr-98	40	220	1200	2700	130
MW-004S	15-Oct-98	100 U	580	300	100 U	100 U
MW-004S	16-Apr-99	50 U	50	50	50 U	730
MW-004S	27-Sep-99	31	93	400	20 U	79
MW-012S	5-Mar-96	4.3 U	2.4 J	2 U	2.8 U	75
MW-012S	2-May-96	4.3 U	1.5 J	2 U	2.8 U	42
MW-012S	10-Apr-97	1 U	1 U	1 U	1 U	1 U
MW-012S	8-Oct-97	1 U	1 U	1 U	1 U	12
MW-012S	28-Apr-98	1 U	1 U	1 U	1 U	65
MW-012S	15-Oct-98	10 U	10 U	10 U	10 U	87
MW-012S	16-Apr-99	10 U	12	10 U	10 U	24
MW-012S	27-Sep-99	58	1 U	1 U	1 U	6
MW-021S	6-Mar-96	43 U	30 U	480	12 J	34 U
MW-021S	1-May-96	22 U	5 J	820	15	17 U
MW-021S	10-Apr-97	1 U	1 U	120	1	6
MW-021S	27-Oct-97	30	49	24000	20000	1600
MW-021S	28-Apr-98	1 U	1 U	54	1 U	1 U
MW-021S	15-Oct-98	100 U	100 U	7900	2500	580
MW-021S	16-Apr-99	50 U	50 U	9000	50 U	520
MW-021S	27-Sep-99	40 U	40 U	8100	40 U	40 U

MPS = Media Protection Standard

U = Nondetect with detection limit given

J = Estimated value

1,2 Dichlorobenzene MPS=94 PPB

Chlorobenzene MPS=1700 PPB

o-chlorotoluene MPS=1500 ppb

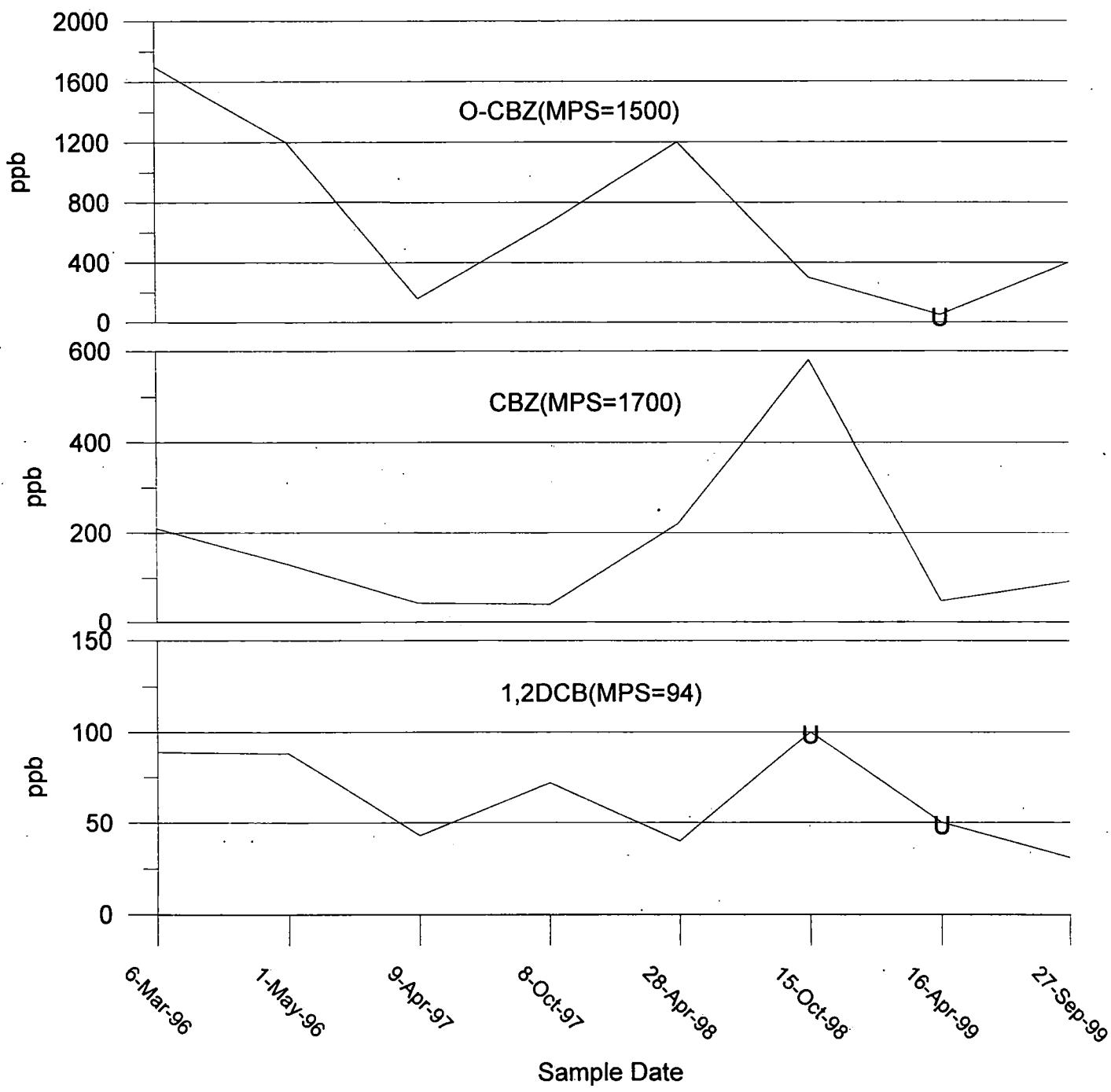
toluene MPS=1700 ppb

xylenes MPS=76 ppb

Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-004S
Upgradient Well

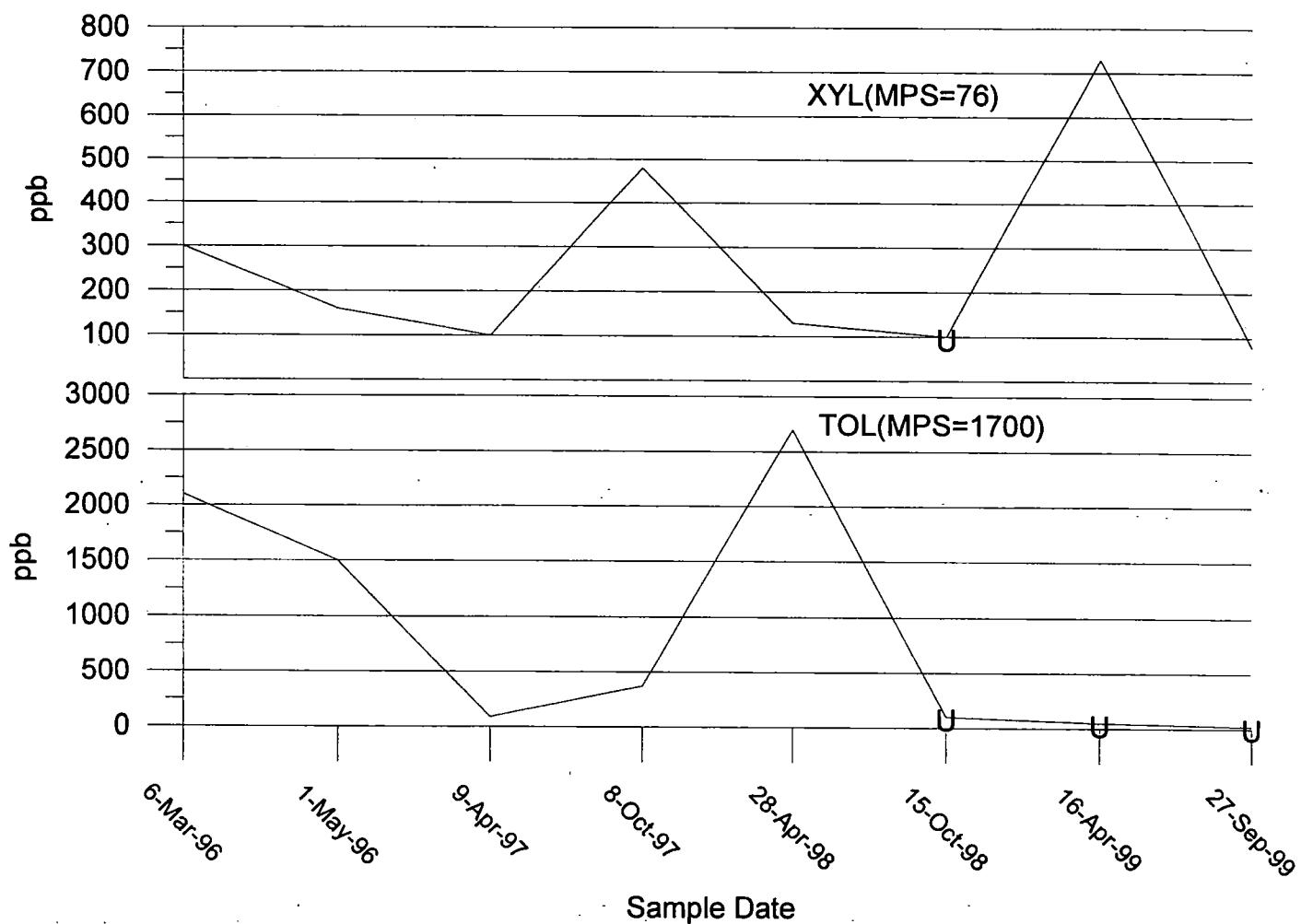
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-004S
Upgradient Well

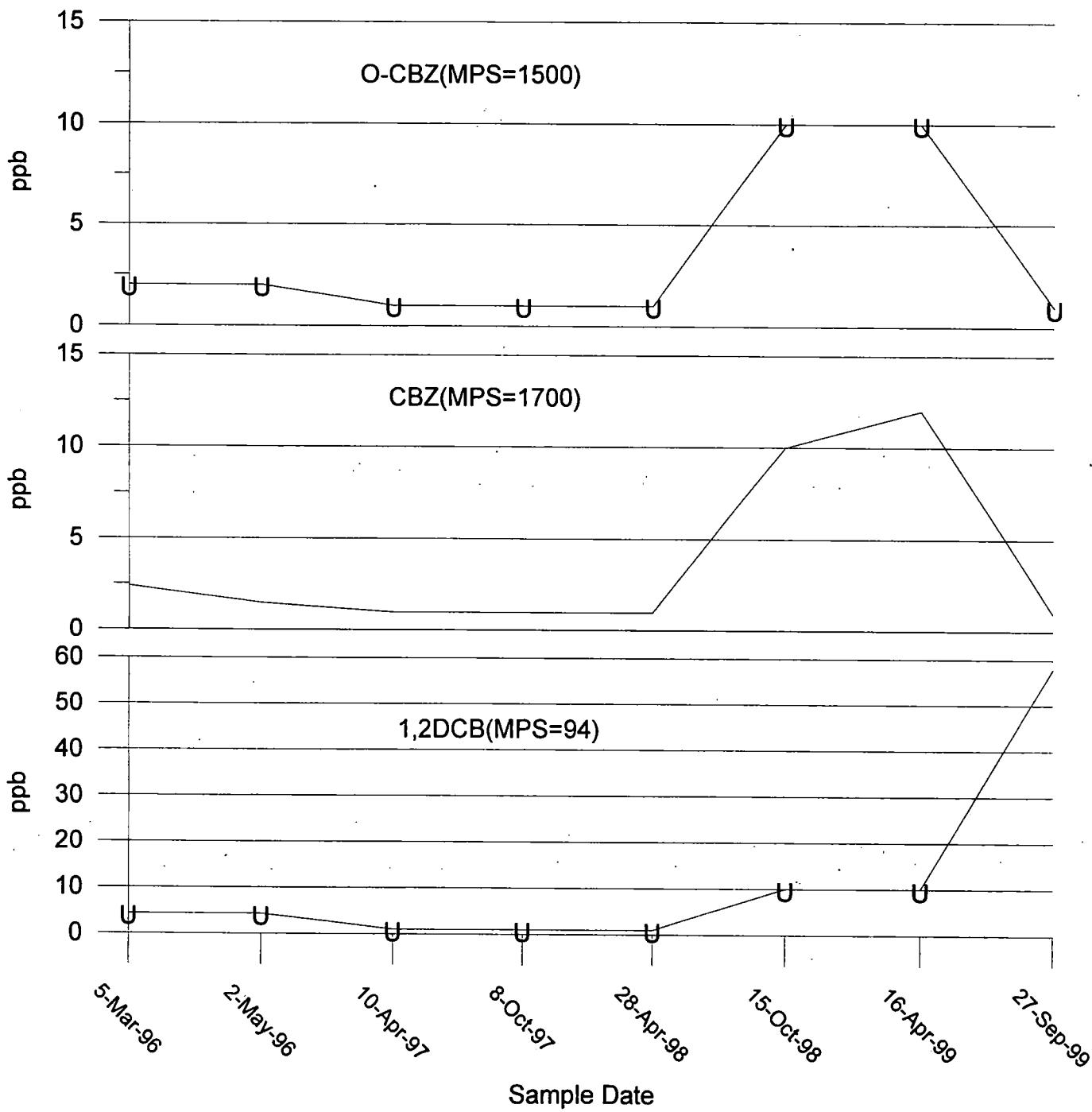
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-012S
Upgradient Well

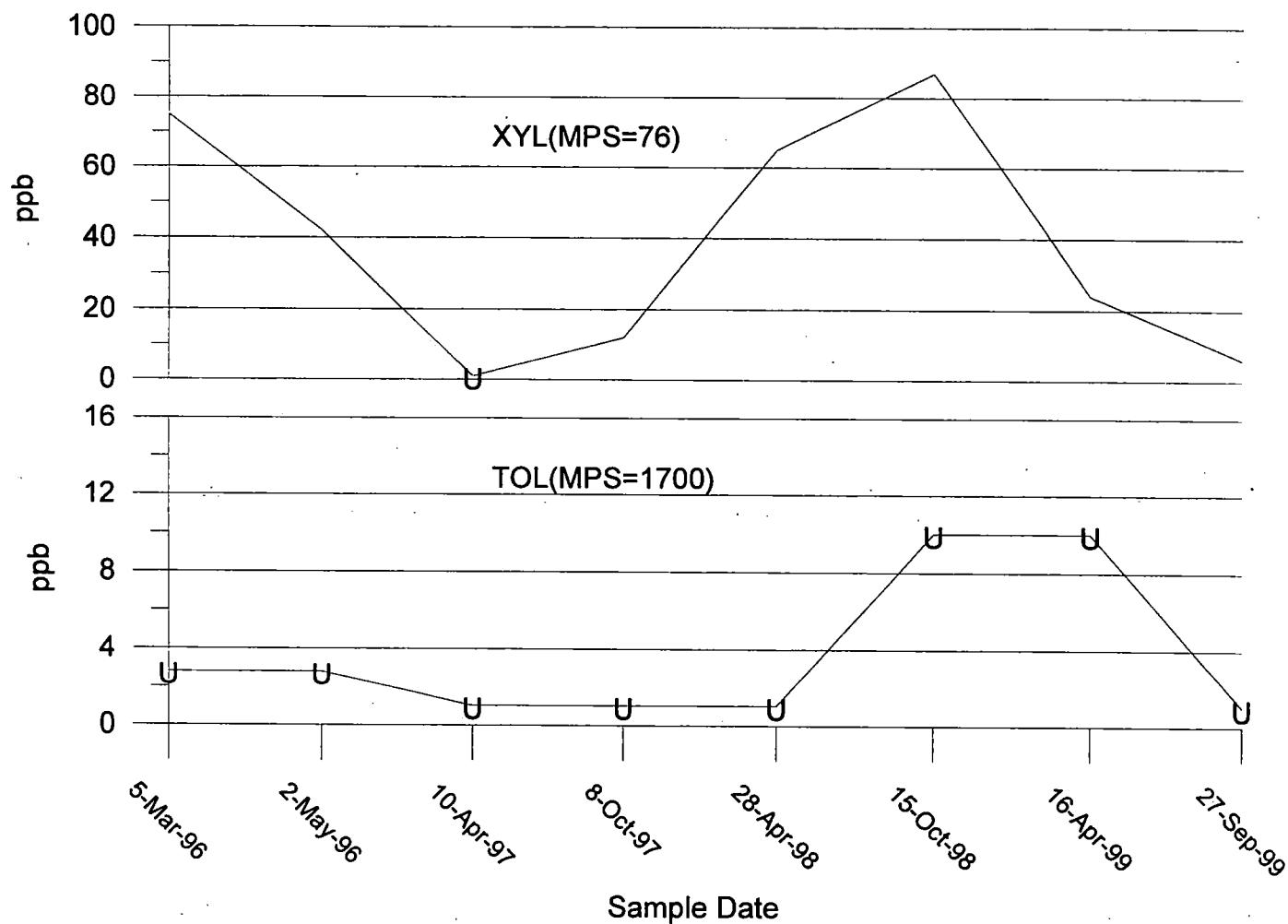
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-012S
Upgradient Well

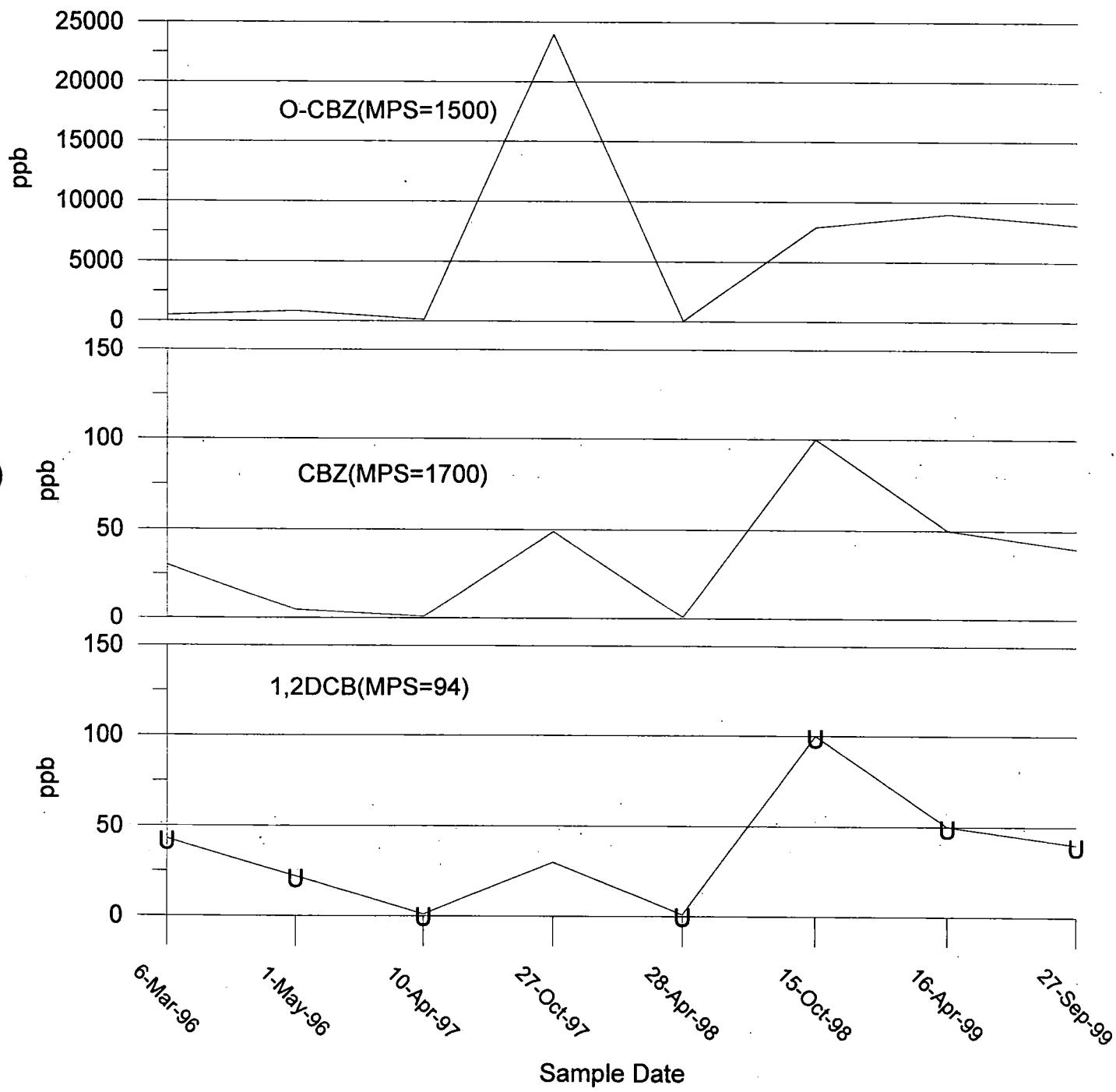
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"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-021S
Upgradient Well

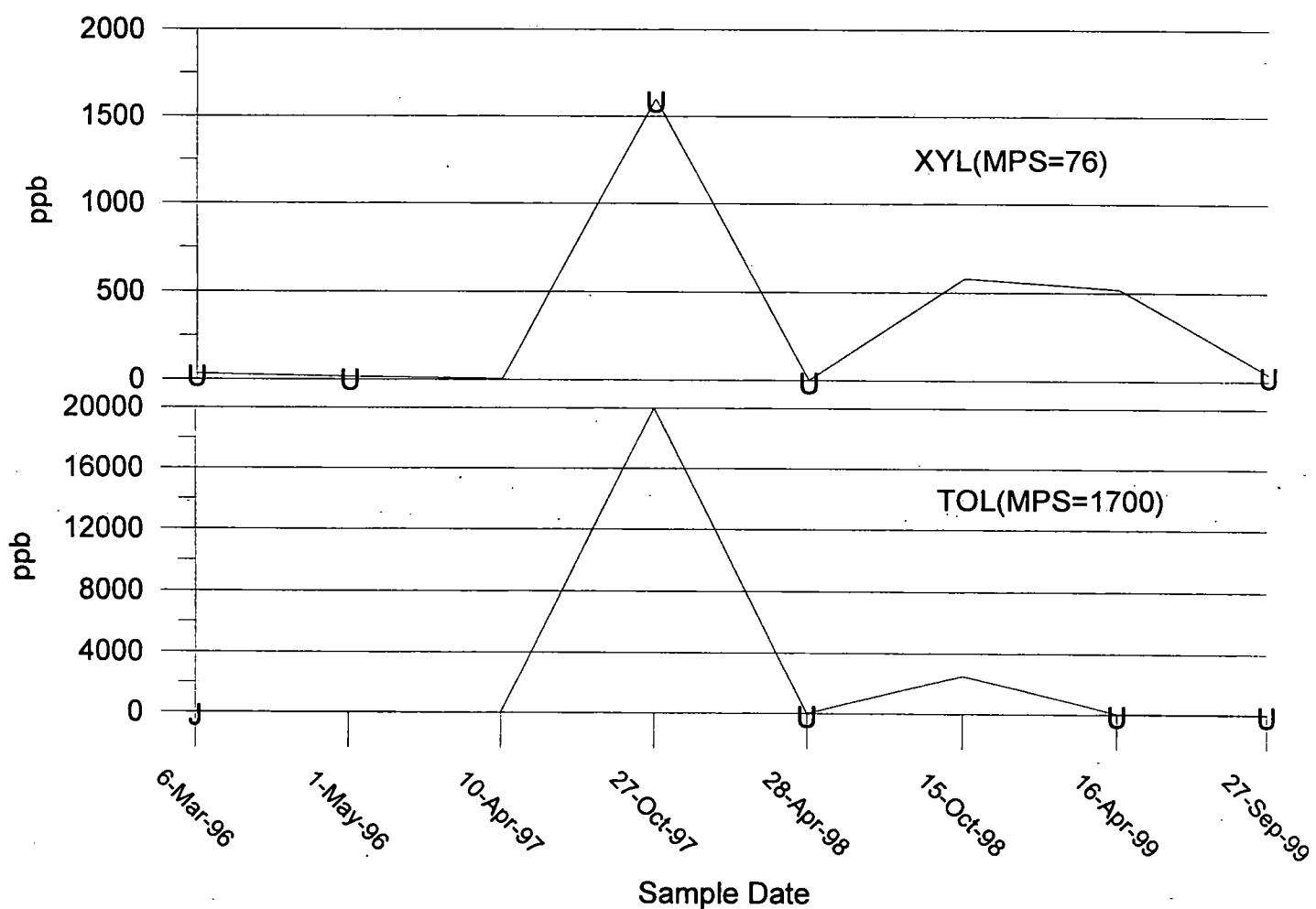
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-021S
Upgradient Well

"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



APPENDIX D
TIME-SERIES GRAPHS
FOR
BULKHEAD WELLS

Table 4
BULKHEAD WELLS
Cumulative Results for Chemicals Of Concern
(Units in ppb)

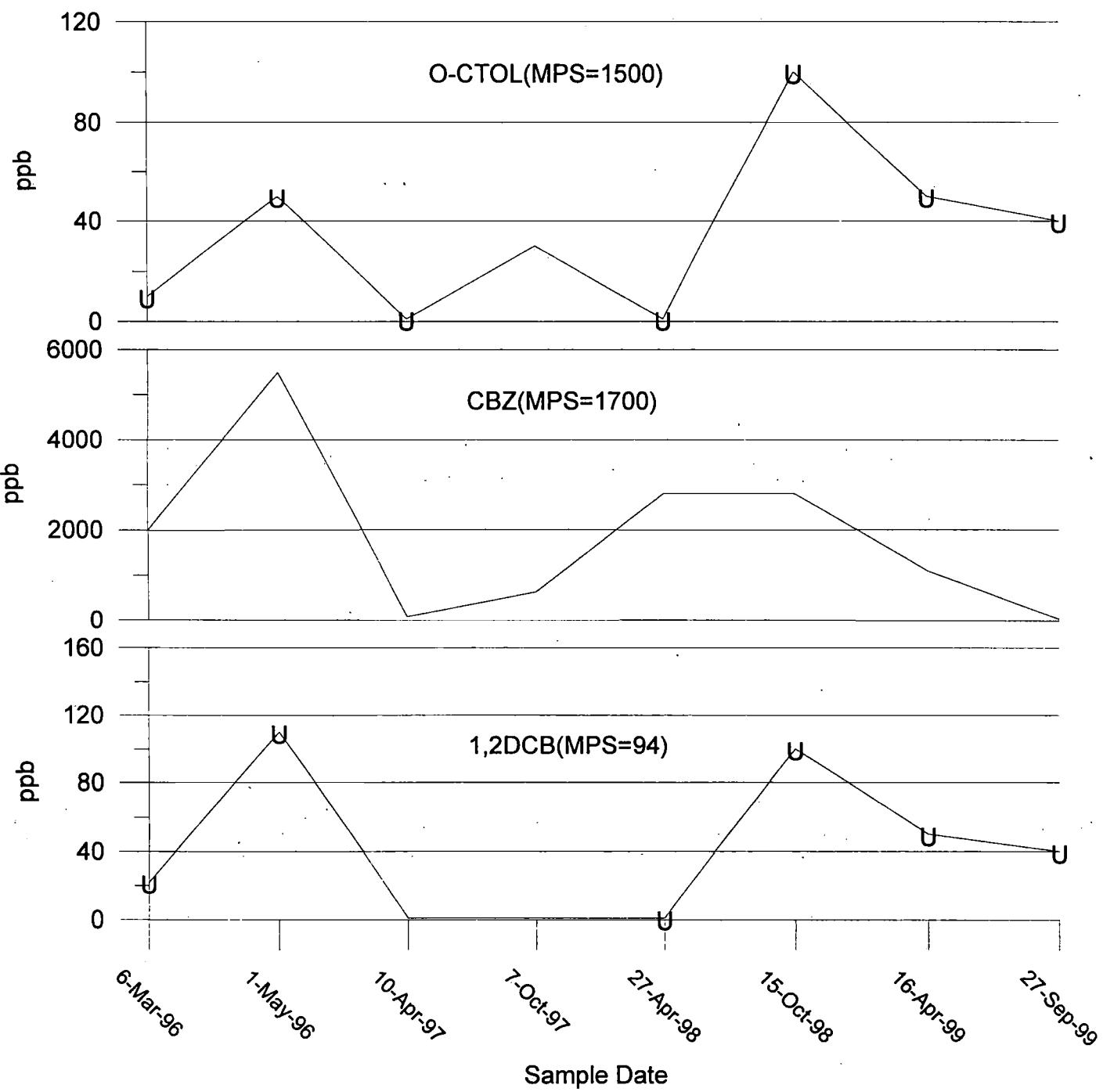
Well No.	Date Sampled	MPS	94 1,2-Dichloro- benzene	1700 Chloro- benzene	1500 o-Chloro- toluene	1700 Toluene	76 Xylenes
MW-001S	6-Mar-96	22 U	2000	10 U	16	18	
MW-001S	1-May-96	110 U	5500	50 U	30 J	85 U	
MW-001S	10-Apr-97	1	93	1 U	9	7	
MW-001S	7-Oct-97	1	640	30	23	2	
MW-001S	27-Apr-98	1 U	2800	1 U	1	2	
MW-001S	15-Oct-98	100 U	2800	100 U	100 U	100 U	
MW-001S	16-Apr-99	50 U	1100	50 U	50 U	50 U	
MW-001S	27-Sep-99	40 U	2300	40 U	40 U	40 U	
MW-002S	5-Mar-96	340	3200	50 U	200	85 U	
MW-002S	30-Apr-96	44 J	2500	50 U	52 J	85 U	
MW-002S	8-Apr-97	20	64	1 U	46	18	
MW-002S	7-Oct-97	90	440	100	97	31	
MW-002S	27-Apr-98	22	500	1 U	88	28	
MW-002S	15-Oct-98	28	5200	1 U	92	34	
MW-002S	16-Apr-99	140	2260	10 U	420	33	
MW-002S	27-Sep-99	43	40 U	40 U	40 U	40 U	
P-035S	8-Apr-97	22	74	1 U	4	12	
P-035S	7-Oct-97	240	710	2	10	12	
P-035S	27-Apr-98	42	360	1 U	2	10	
P-035S	15-Oct-98	140	2100	10 U	130	80	
P-035S	16-Apr-99	20	480	10 U	10 U	10 U	
P-035S	27-Sep-99	40 U	40 U	40 U	40 U	40 U	
P-036S	6-Mar-96	22 U	440	10 U	14 U	17 U	
P-036S	1-May-96	22 U	460	30	14 U	17 U	
P-036S	8-Apr-97	1 U	72	1 U	1 U	2	
P-036S	7-Oct-97	1 U	35	9	2	1 U	
P-036S	27-Apr-98	1 U	260	1 U	1 U	1 U	
P-036S	15-Oct-98	1 U	230	1 U	1 U	1	
P-036S	16-Apr-99	10 U	200	10 U	10 U	10 U	
P-036S	27-Sep-99	10 U	450	10 U	10 U	10 U	
P-037S	9-Apr-97	2 U	54	16	1 U	1	
P-037S	8-Oct-97	2	50	13	1 U	1 U	
P-037S	28-Apr-98	2	420	8	1 U	1 U	
P-037S	15-Oct-98	30 U	540	30 U	30 U	30 U	
P-037S	16-Apr-99	10 U	210	10 U	10 U	10 U	
P-037S	27-Sep-99	10 U	660	10 U	10 U	10 U	
P-038S	6-Mar-96	4.3 U	2.4 J	2 U	1.3 J	3.4 U	
P-038S	1-May-96	4.3 U	1.2 J	2 U	2.8 U	3.4 U	
P-038S	9-Apr-97	1 U	1 U	1 U	1 U	1 U	
P-038S	8-Oct-97	1 U	1 U	1 U	1 U	1 U	
P-038S	28-Apr-98	1 U	1 U	1 U	1 U	1 U	
P-038S	15-Oct-98	1 U	2	1 U	1 U	1 U	
P-038S	16-Apr-99	1 U	1 U	1 U	1 U	1 U	
P-038S	27-Sep-99	1 U	1	1 U	1 U	1 U	

MPS = Media Protection Standard
U = Nondetect with detection limit given
J = Estimated value
1,2 Dichlorobenzene MPS=94 PPB
Chlorobenzene MPS=1700 PPB
o-chlorotoluene MPS=1500 ppb
toluene MPS=1700 ppb
xylenes MPS=76 ppb

Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-001S
Along Bulkhead

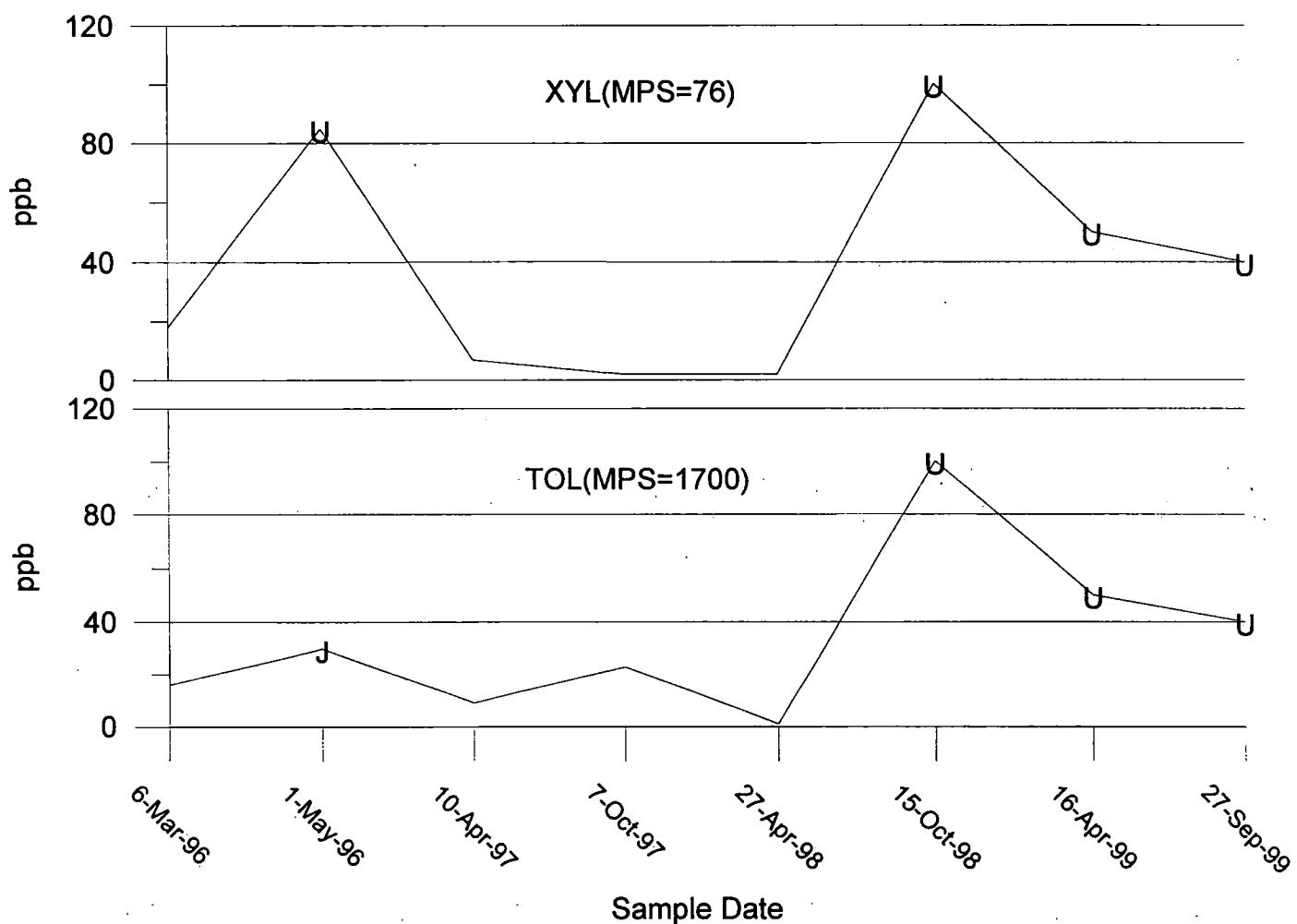
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-001S
Along Bulkhead

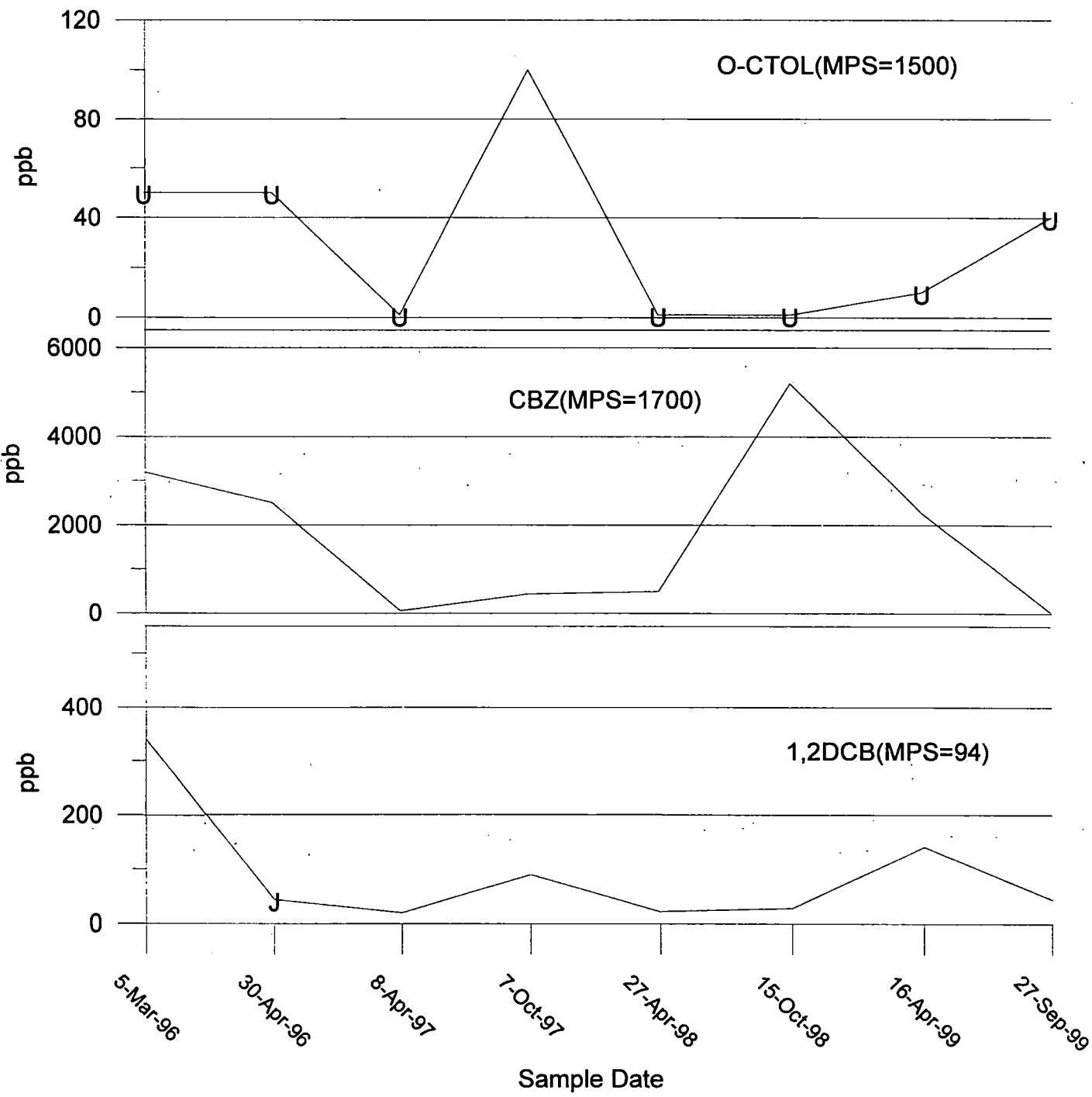
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MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-002S
Along Bulkhead

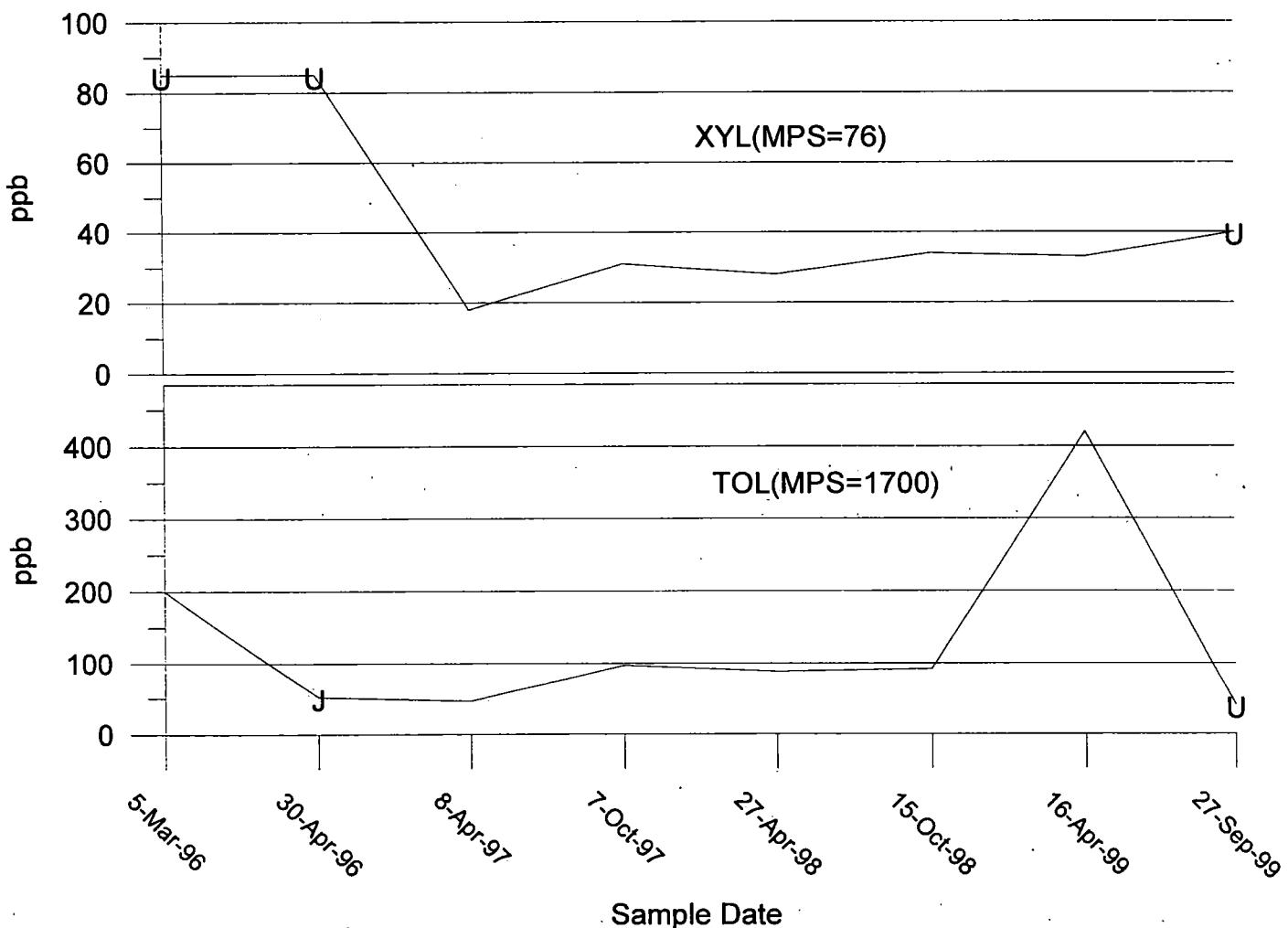
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"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-002S
Along Bulkhead

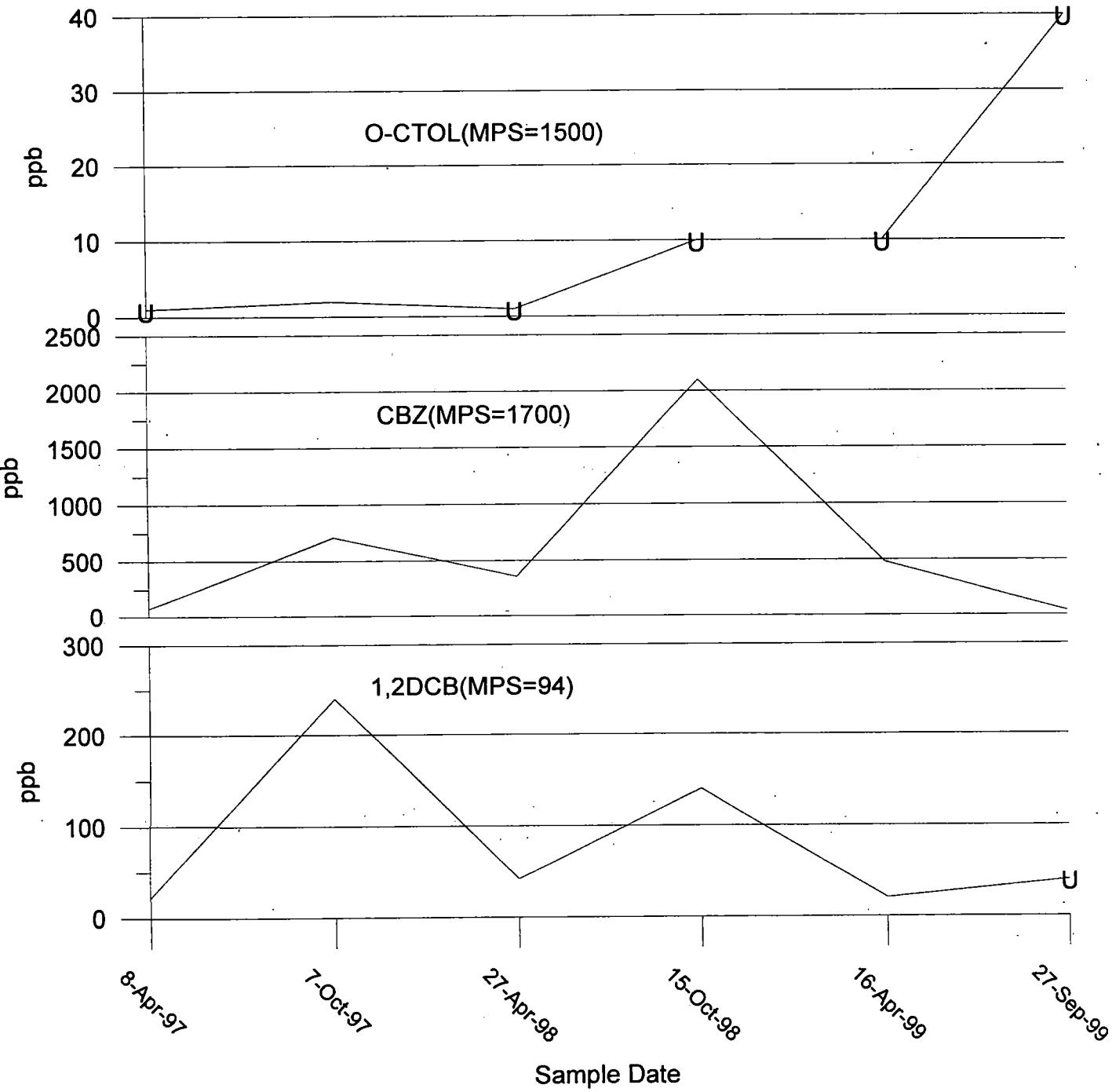
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"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-035S
Along Bulkhead

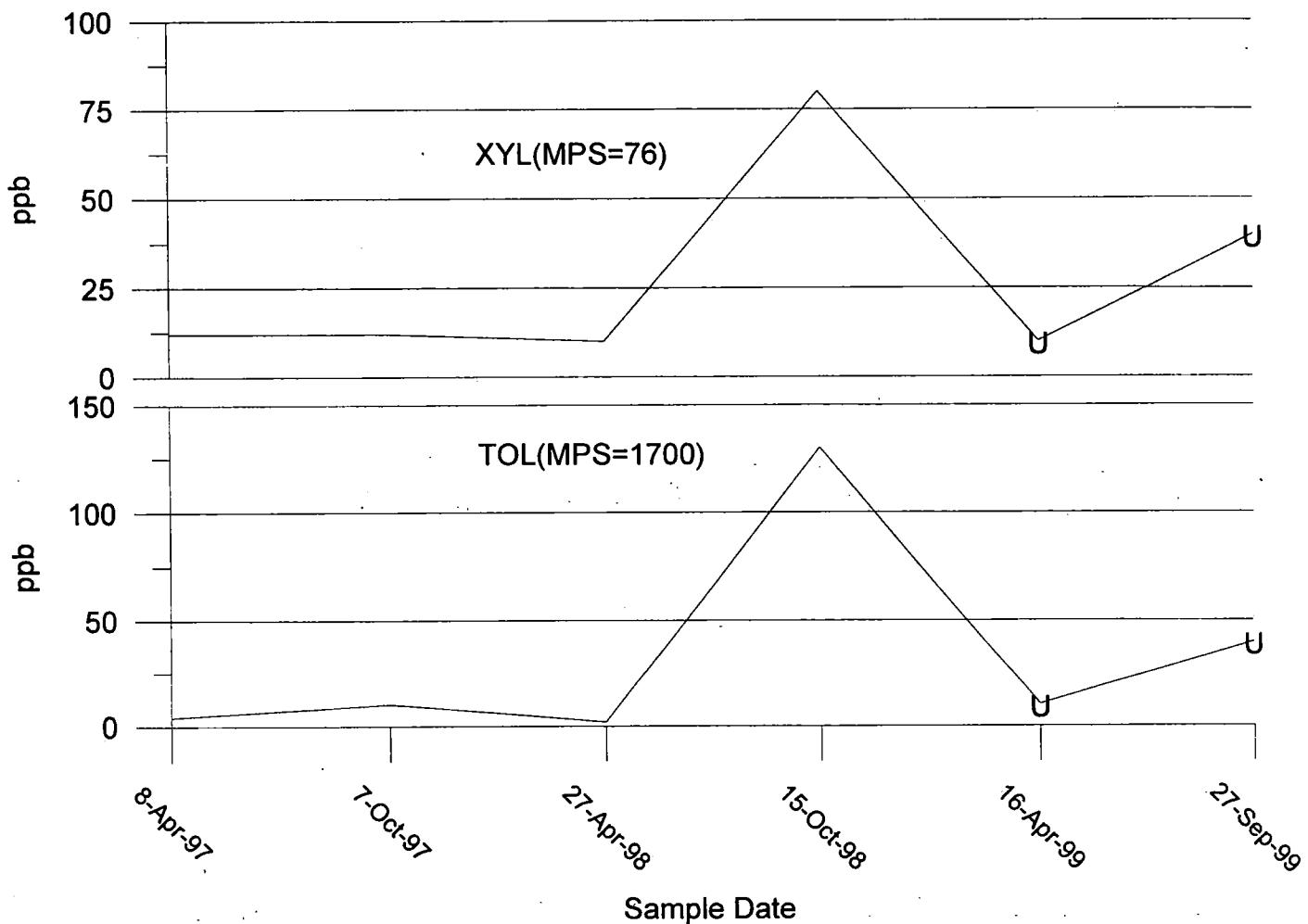
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"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-035S
Along Bulkhead

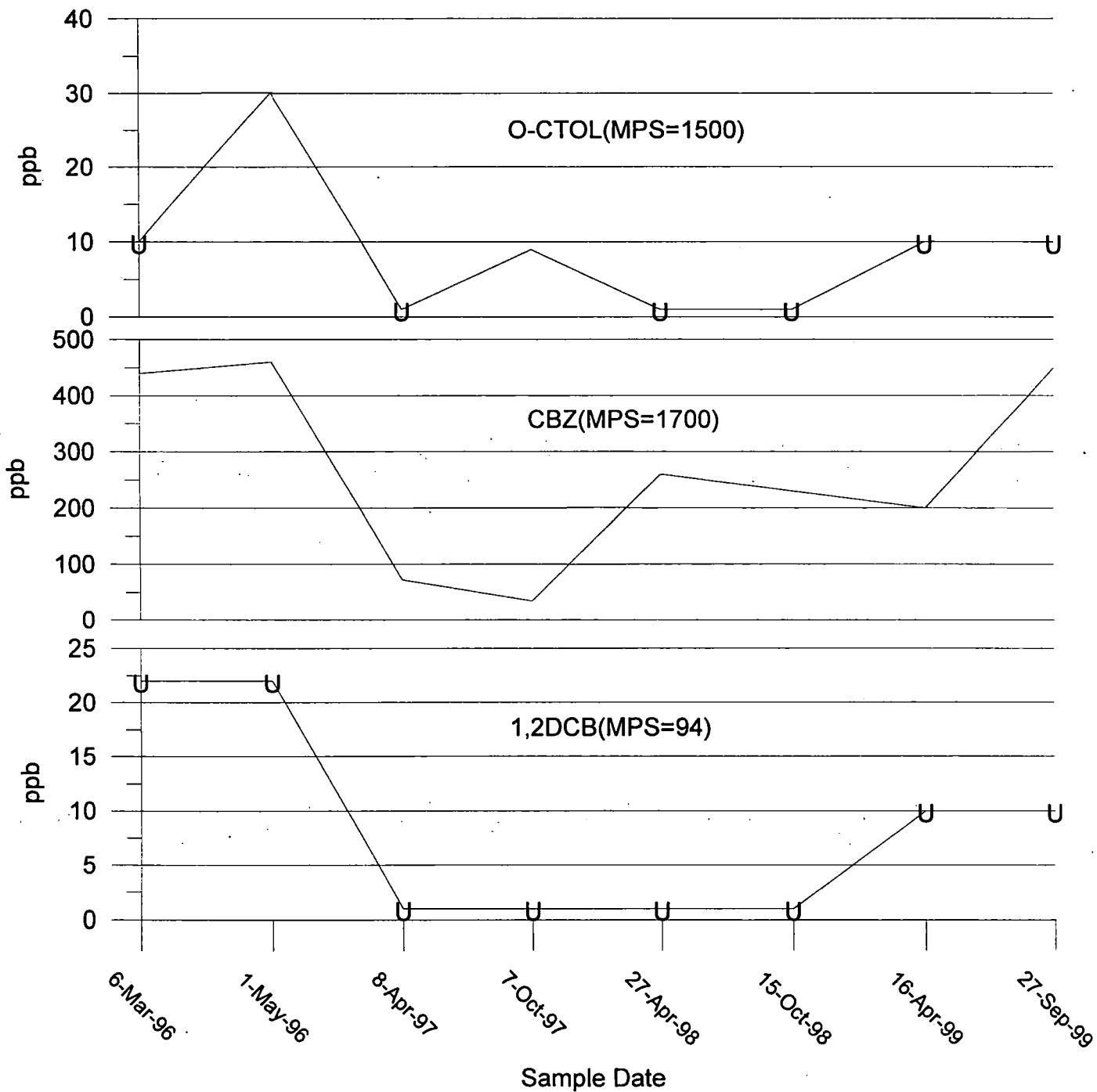
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"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-036S
Along Bulkhead

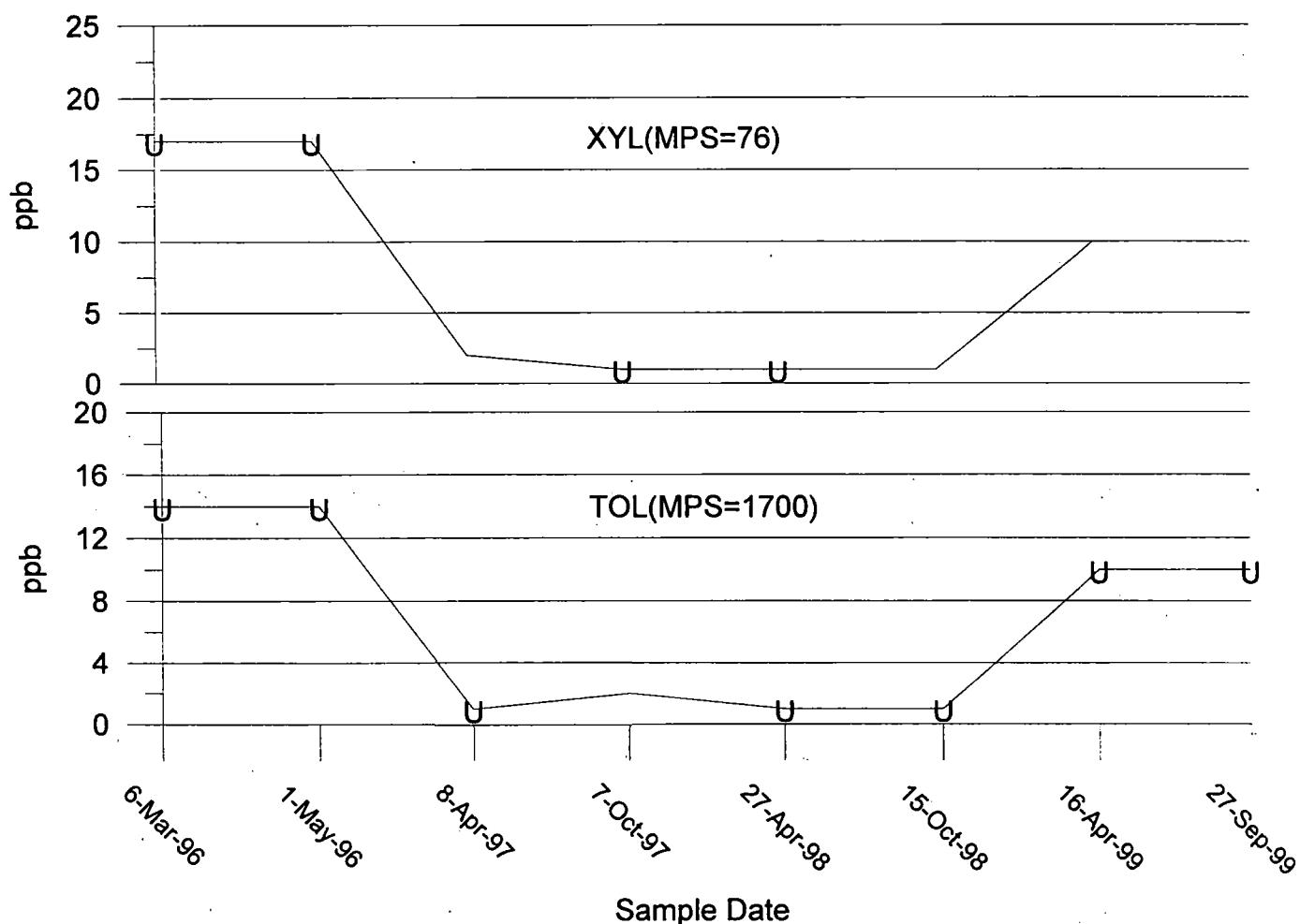
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"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-036S
Along Bulkhead

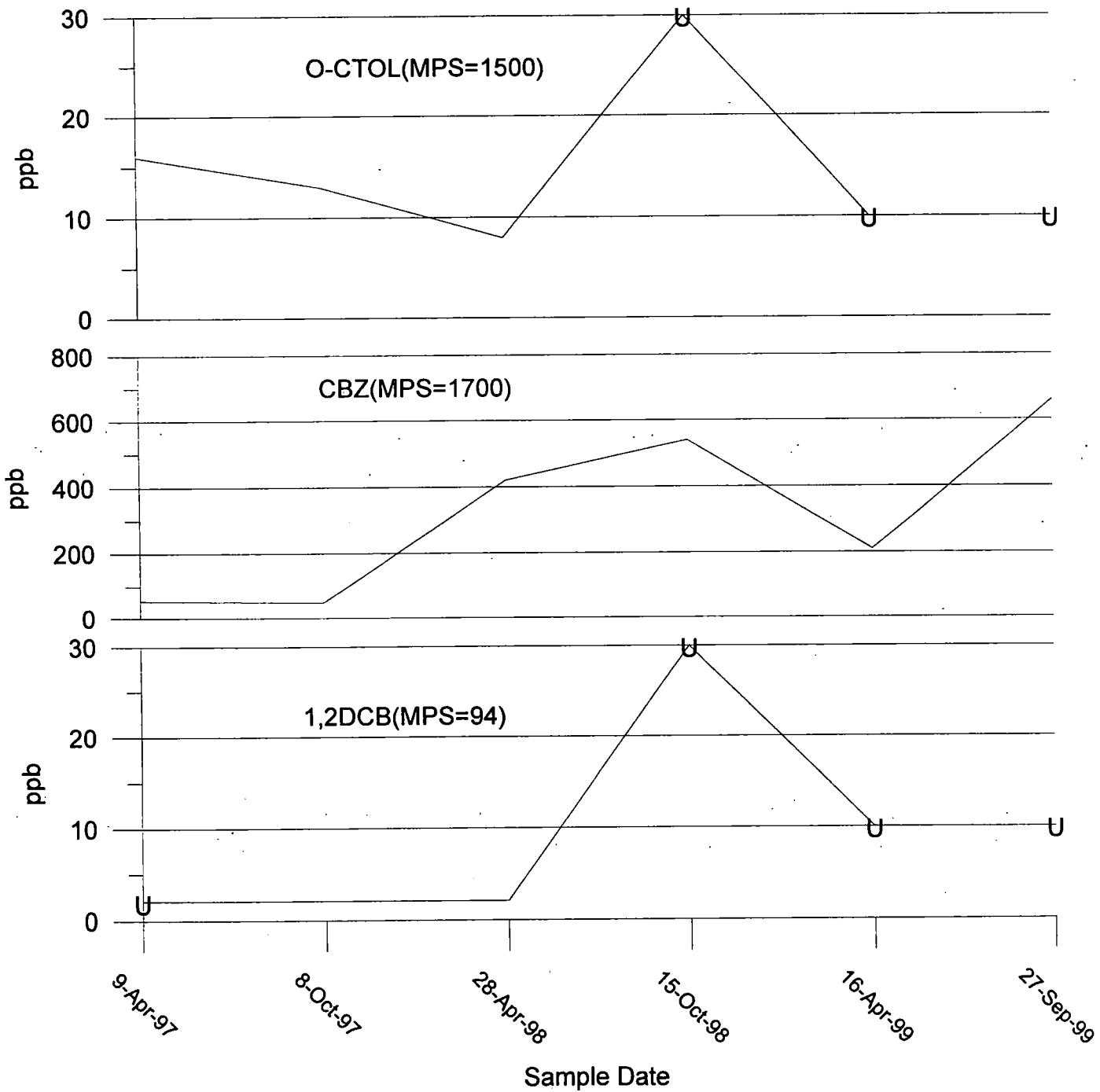
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-037S
Along Bulkhead

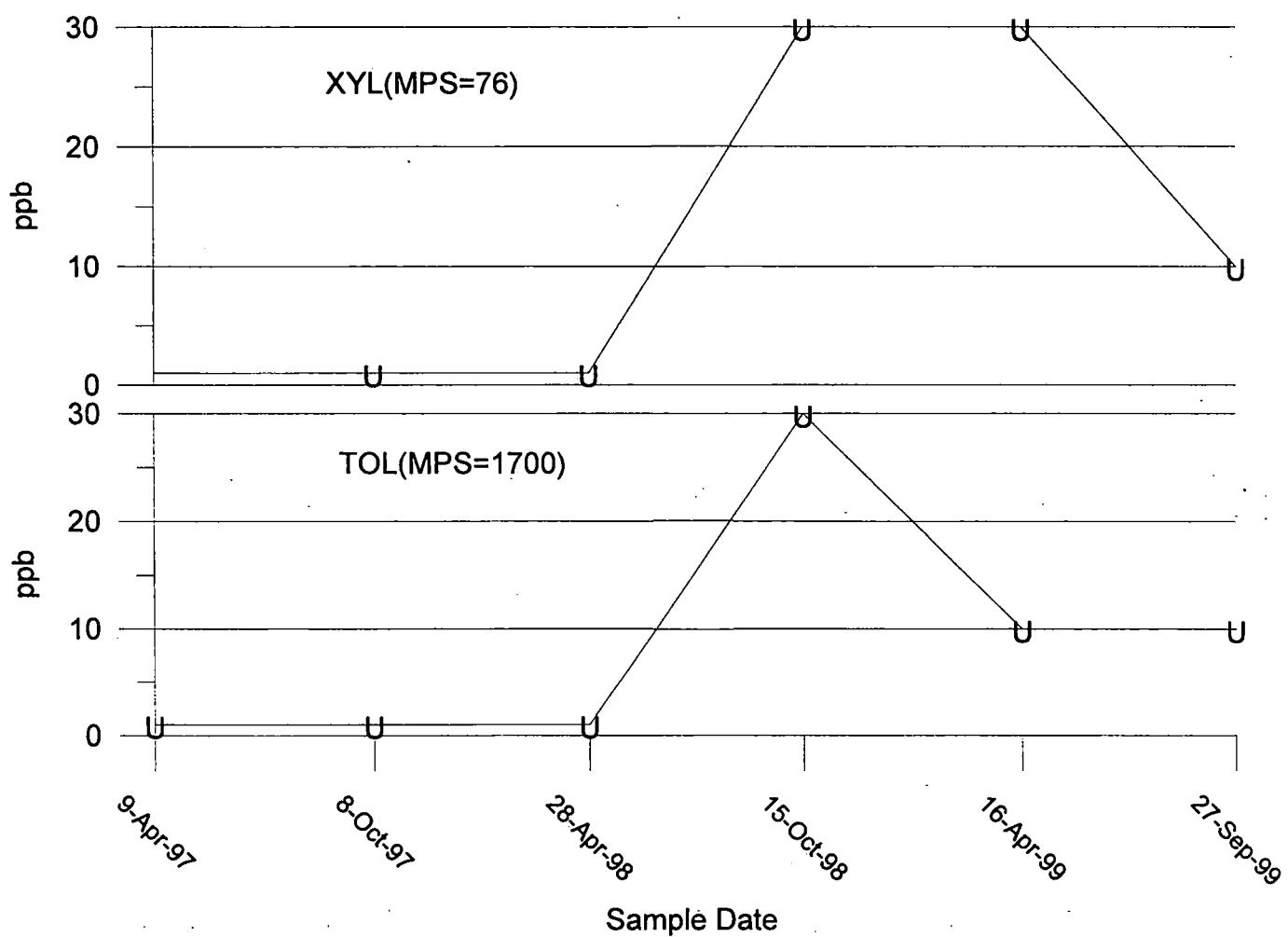
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-037S
Along Bulkhead.

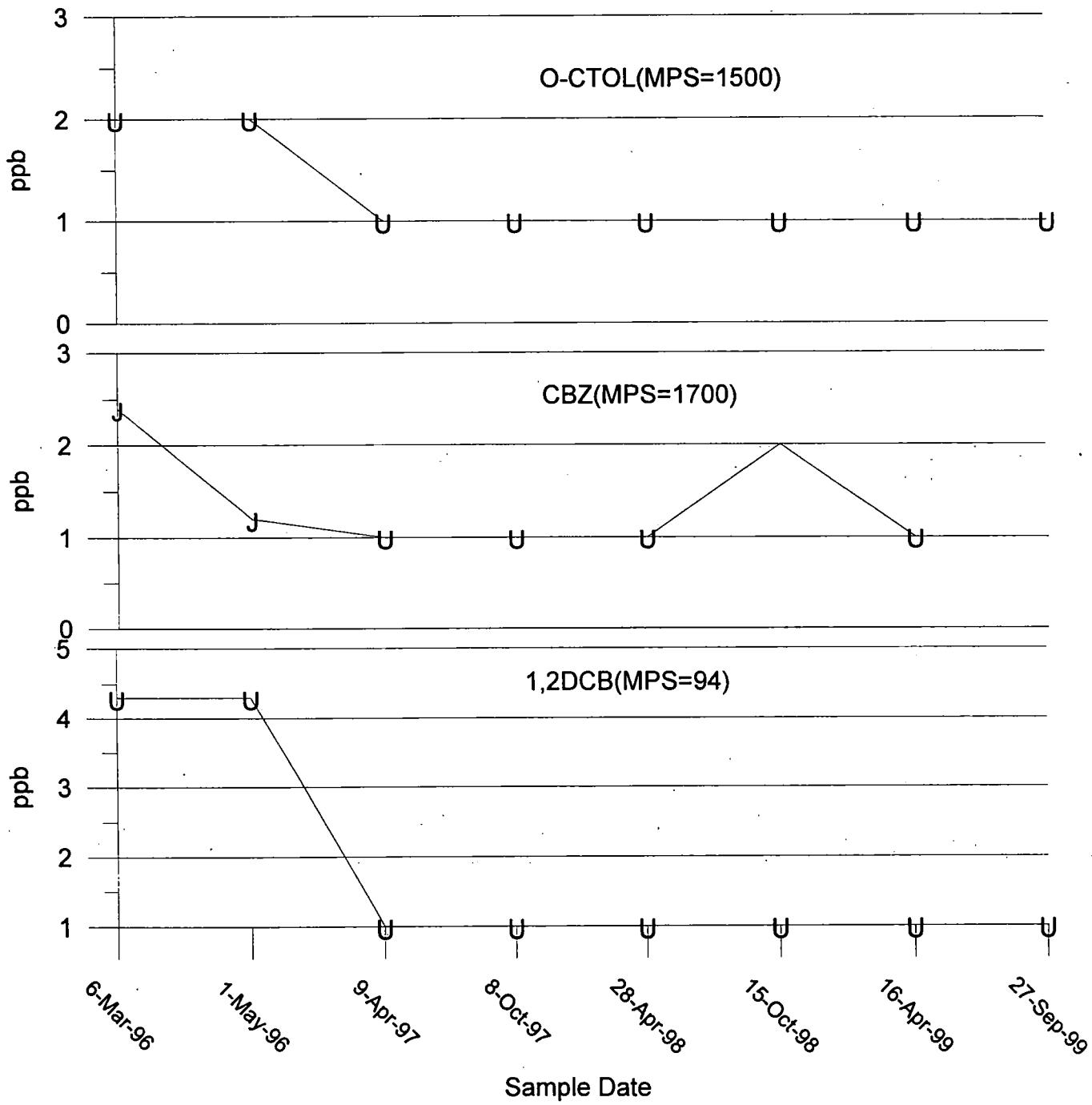
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"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-038S
Along Bulkhead

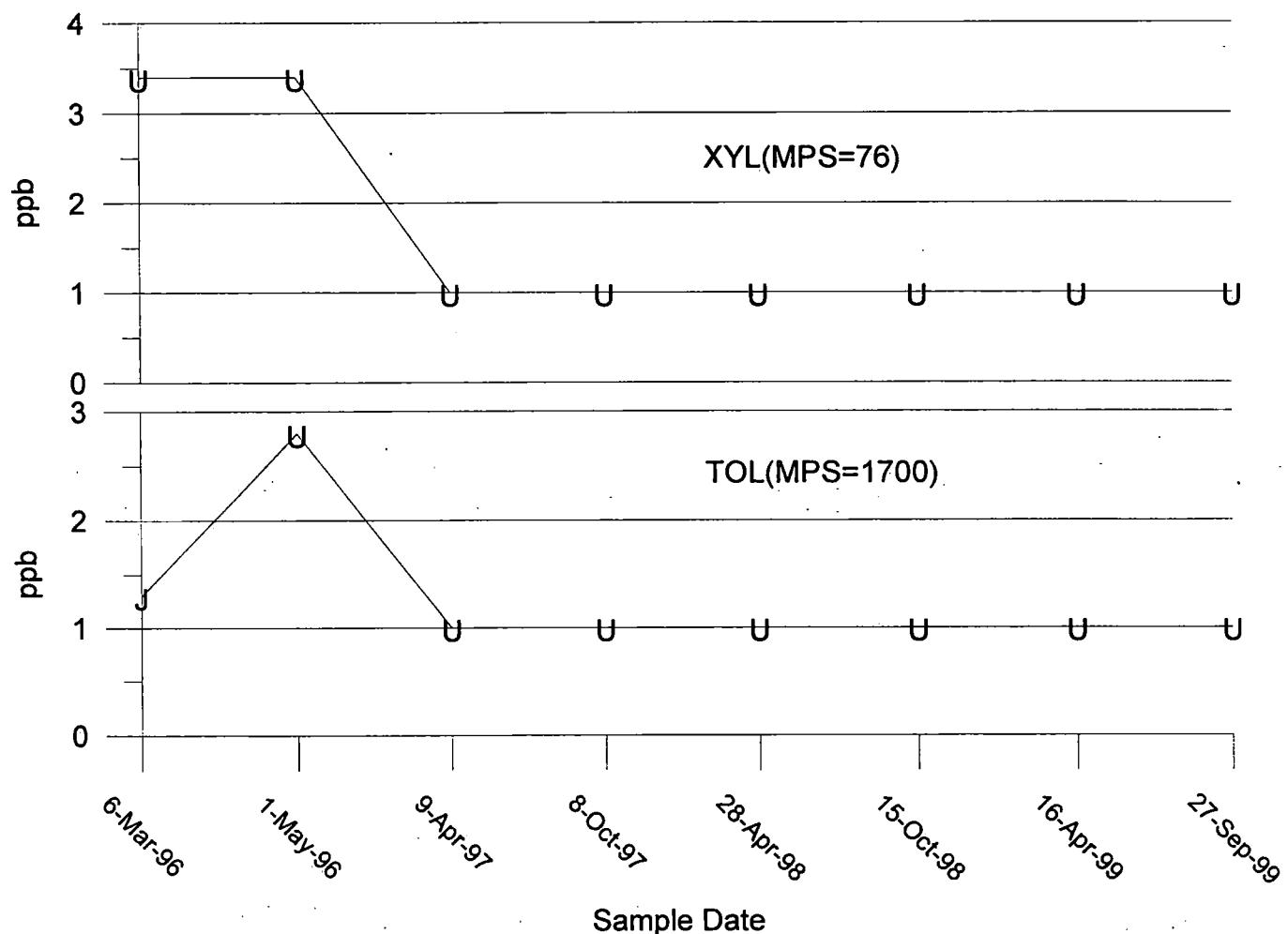
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"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-038S
Along Bulkhead

"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



APPENDIX E
TIME-SERIES GRAPHS
FOR
IN-RIVER WELLS

Table 5
IN-RIVER WELLS
Cumulative Results for Chemicals Of Concern
(Units in ppb)

Well No.	Date Sampled	MPS 94 1,2-Dichloro-benzene	1700 Chloro-benzene	1500 o-Chloro-toluene	1700 Toluene	76 Xylenes
SW-110	6-Mar-96	54	1600	55	460	34 U
SW-110	2-May-96	63 J	1600	40 U	220	68 U
SW-110	10-Apr-97	23	110	1	62	8
SW-110	8-Oct-97	1 U	1 U	1 U	1 U	1 U
SW-110	27-Apr-98	21	1100	2	170	6
SW-110	15-Oct-98	100 U	440	100 U	100 U	100 U
SW-110	16-Apr-99	50 U	670	50 U	50 U	50 U
SW-110	27-Sep-99	40 U	40 U	40 U	40 U	40 U
SW-120	5-Mar-96	4.3 U	63	2 U	2.8 U	3.4 U
SW-120	30-Apr-96	4.3 U	70	2 U	2.8 U	3.4 U
SW-120	8-Apr-97	1 U	43	1 U	1 U	1 U
SW-120	7-Oct-97	1	39	39	31	2
SW-120	27-Apr-98	1 U	54	1 U	1 U	1 U
SW-120	15-Oct-98	1 U	36	1 U	1 U	1 U
SW-120	16-Apr-99	10 U	92	10 U	10 U	10 U
SW-120	27-Sep-99	10 U	68	10 U	10 U	10 U
SW-130	6-Mar-96	4.3 U	3 U	6.5	2.8 U	3.4 U
SW-130	1-May-96	4.3 U	3 U	12	2.8 U	3.4 U
SW-130	9-Apr-97	1 U	1	12	1 U	1 U
SW-130	7-Oct-97	1 U	1 U	2	1 U	1 U
SW-130	27-Apr-98	1 U	27	14	1 U	1 U
SW-130	15-Oct-98	1 U	1 U	1	1 U	1 U
SW-130	16-Apr-99	1 U	5	5	1 U	1 U
SW-130	27-Sep-99	1 U	1	2	1 U	1 U

MPS = Media Protection Standard

U = Nondetect with detection limit given

J = Estimated value

1,2 Dichlorobenzene MPS=94 PPB

Chlorobenzene MPS=1700 PPB

o-chlorotoluene MPS=1500 ppb

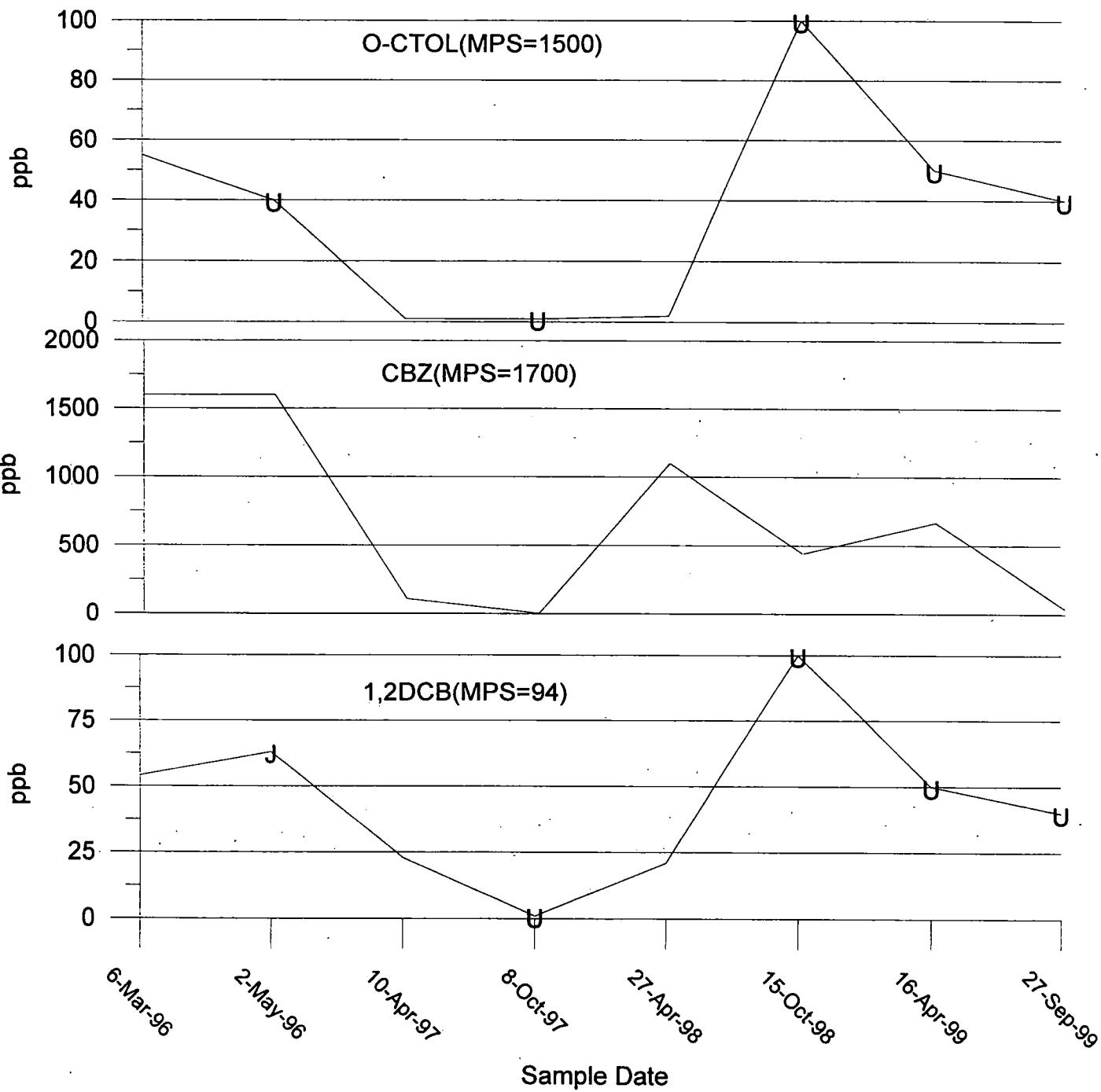
toluene MPS=1700 ppb

xylenes MPS=76 ppb

Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well SW-110
In-River Wells

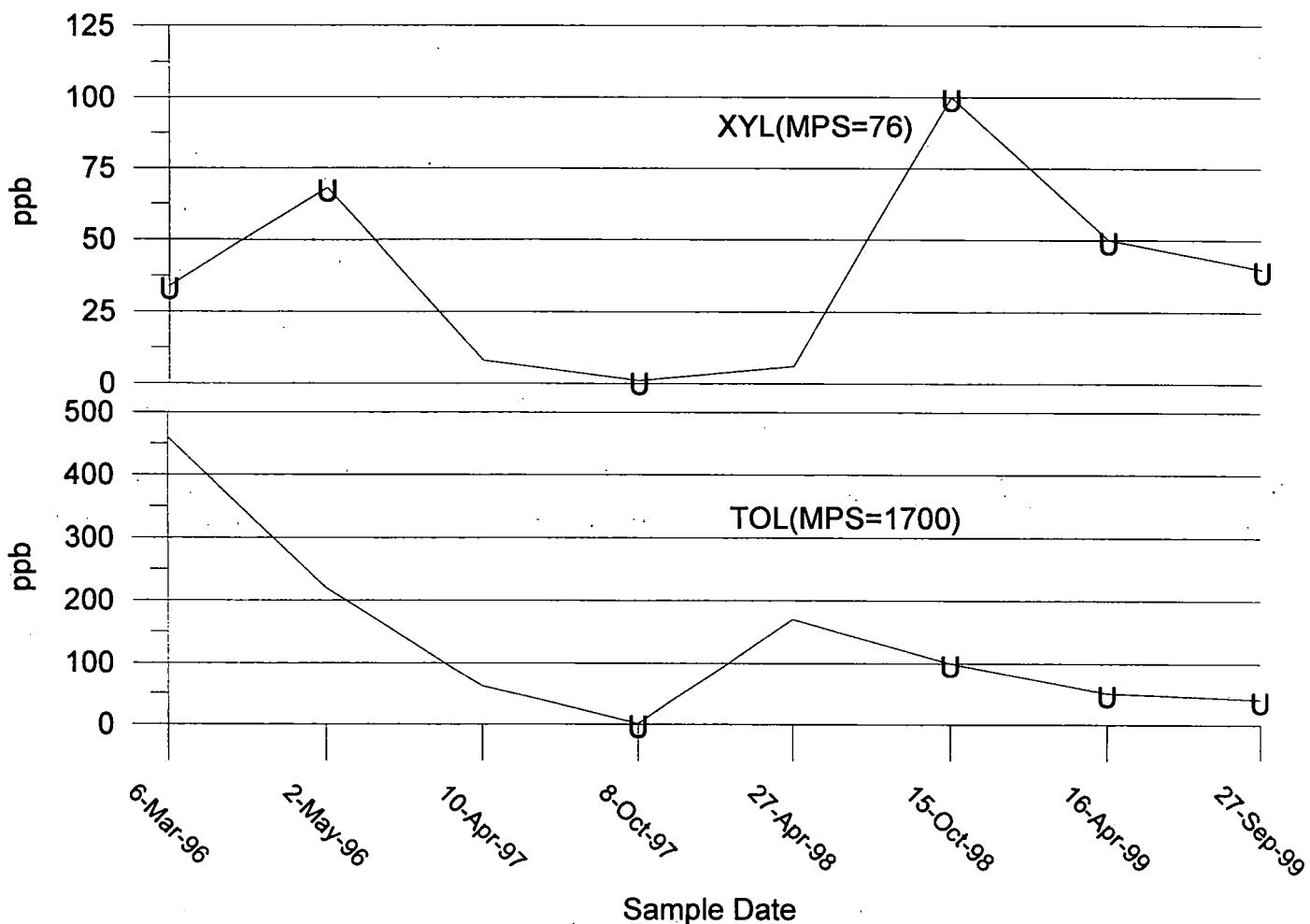
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well SW-110
In-River Well

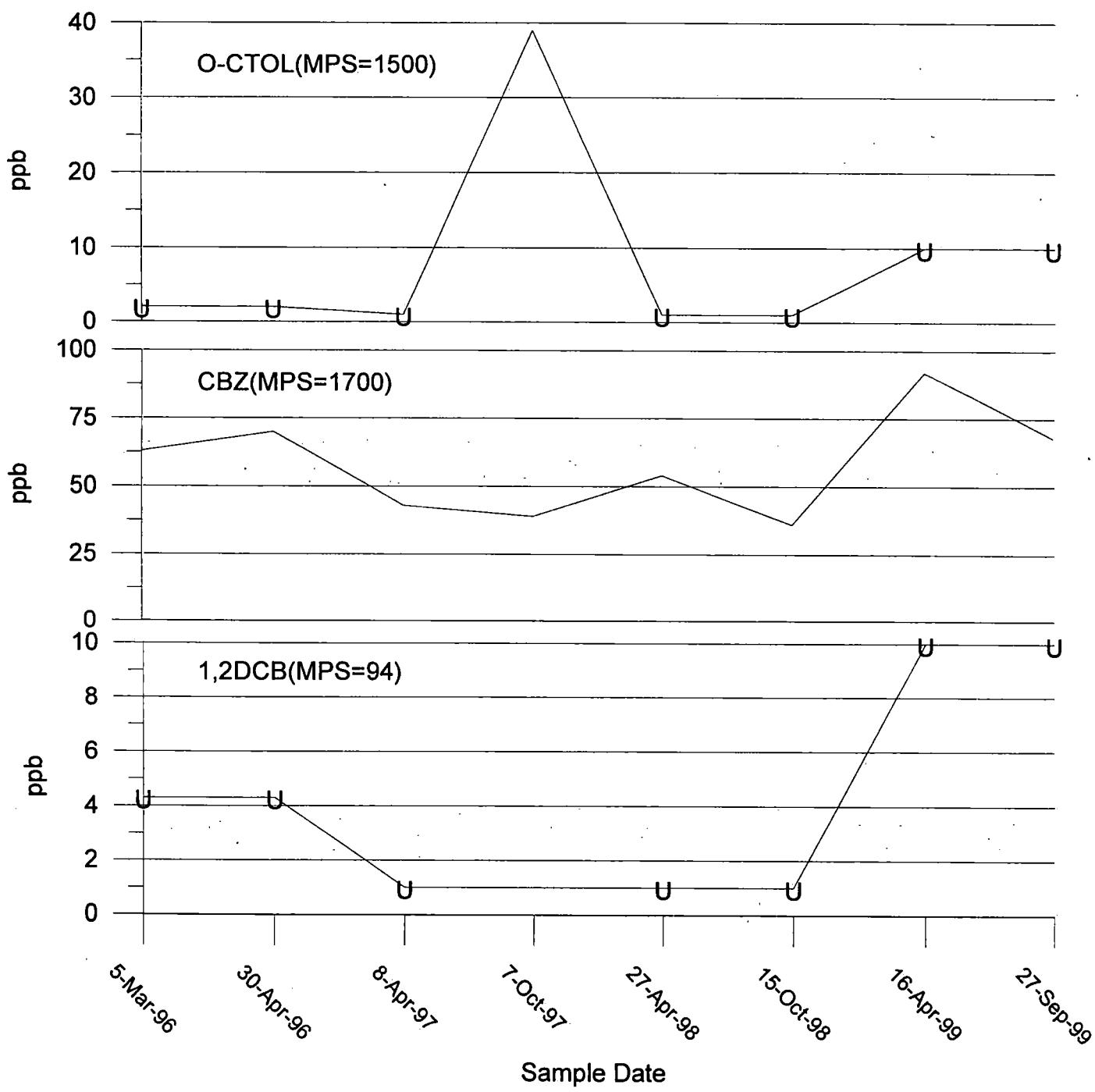
"U"=Nondetect
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MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well SW-120
In-River Well

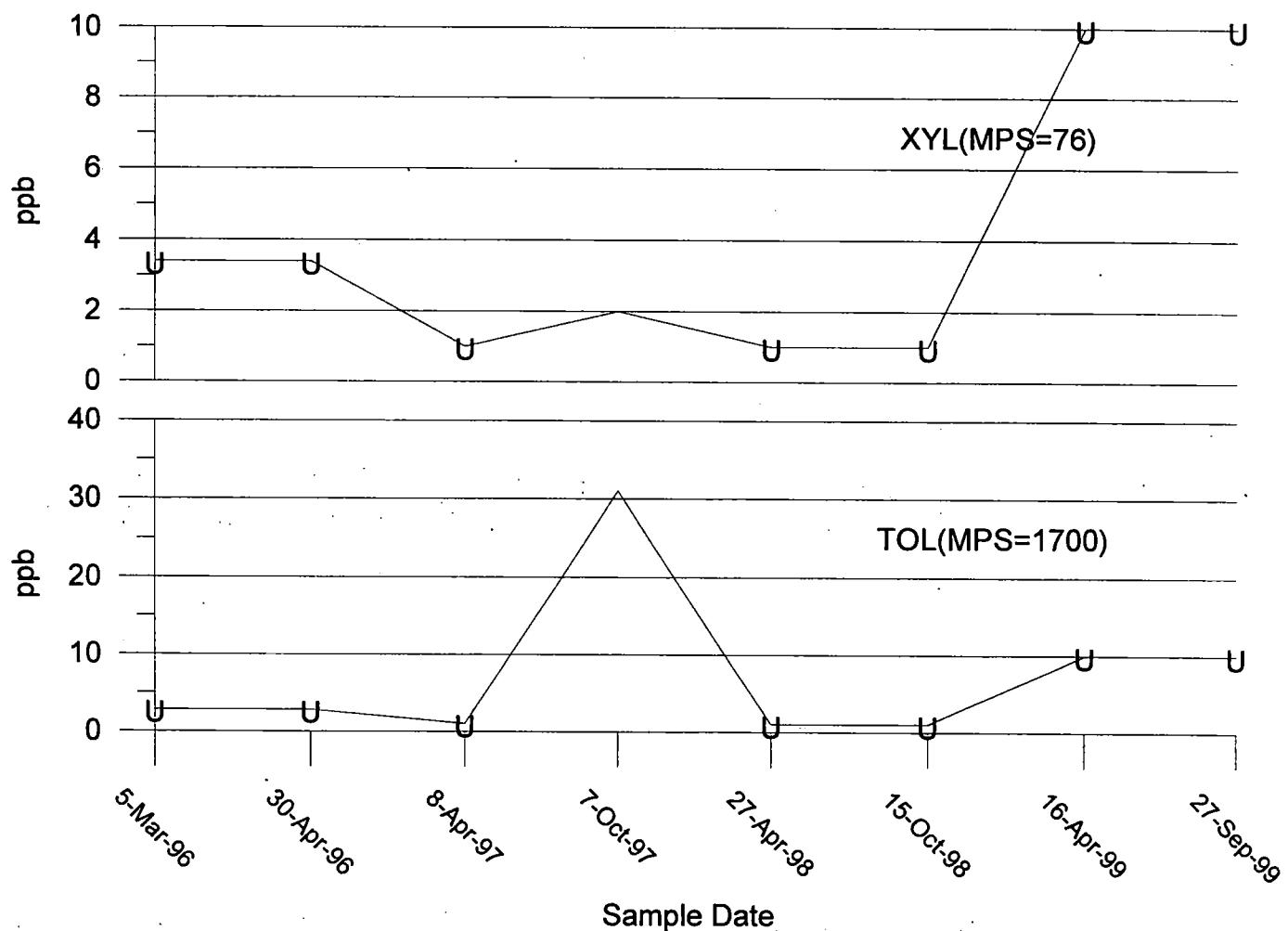
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well SW-120
In-River Well

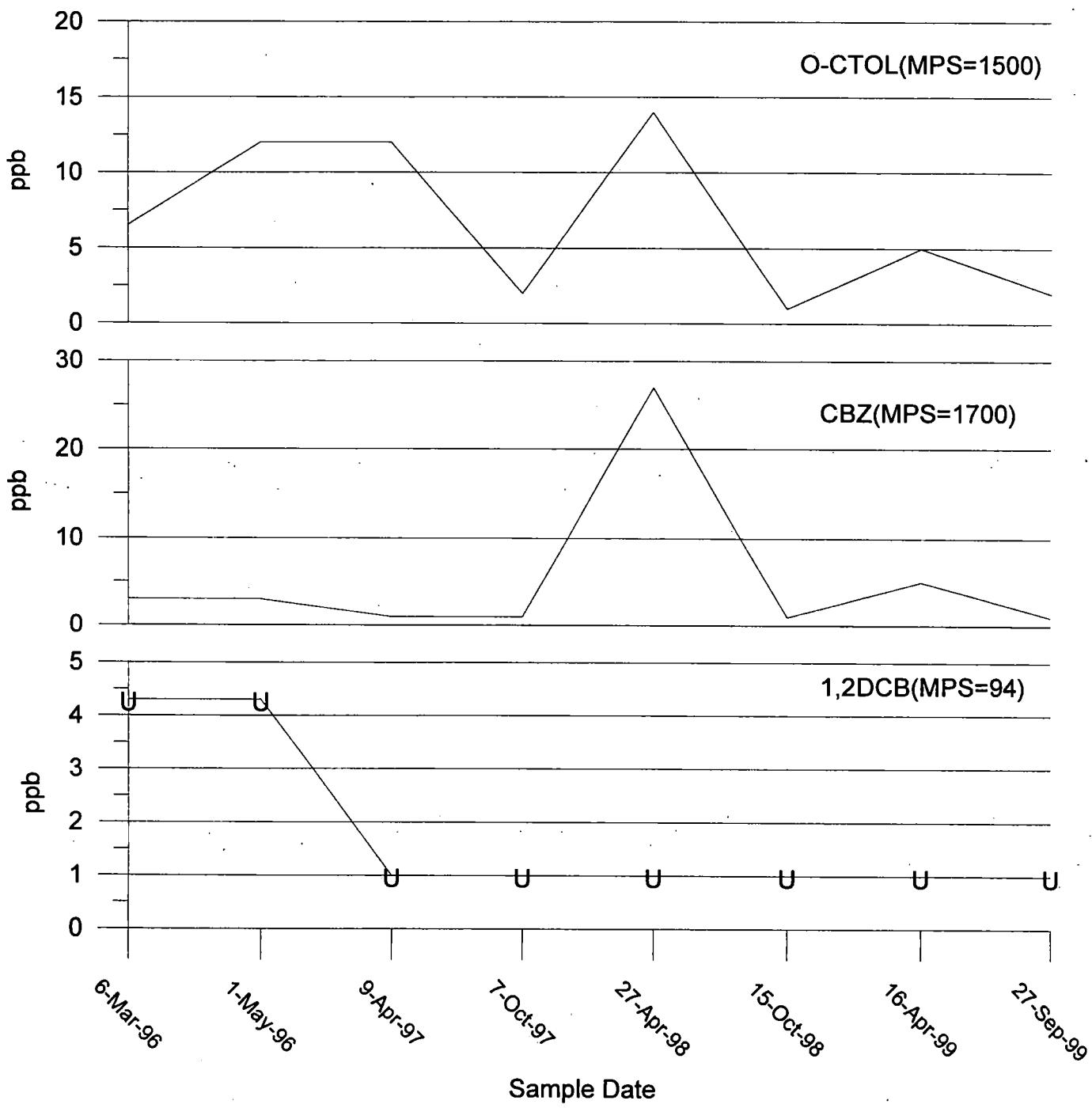
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well SW-130
In-River Well

"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well SW-130
In-River Well

"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.

